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ἈΤΛΑΣ ΟΥΡΑΝΙΟΣ,

The COELESTIAL ATLAS;

OR, A NEW

E P H E M E R I S

2465
8

For the YEAR of our LORD 1783.

Being the Third after

BISSEXTILE, or LEAP-YEAR.

Wherein are contained

The Heliocentrick and Geocentrick Places of the Planets; the ECLIPSES of the Luminaries, and other remarkable PHENOMENA that will happen this Year.

Carefully computed

From the genuine TABLES of Dr. EDMUND HALLEY, those of Professor MAYER, and other the latest and most correct ASTRONOMICAL TABLES.

A L S O

A Compleat ALMANACK, containing the FEASTS and FASTS of the Church of ENGLAND; the Times of the LUNATIONS; the Rising and Setting of the Sun, Moon, and Planets, &c.

Adapted to the

Meridian and Latitude of the ancient and honourable CITY of LONDON.

To which are added,

Several useful TABLES: As, a TABLE of the Sun's Declination; a TABLE by which the Times of the Sun's Rising and Setting may be known by Inspection, on every Day in the Year, and in any Part of GREAT-BRITAIN or IRELAND; a TIDE-TABLE, and a very correct one of the Eclipses of JUPITER's first Satellites; and, lastly, an exact TABLE of the Rising, Setting, and Duration of Forty of the most remarkable Stars, taken from Mr. FLAMSTEED's Catalogue.



By ROBERT WHITE,

Teacher of the Mathematics.

Ἡ τριγὰς ὁμιλῶντος ἑξῆς ἔστι.

The THIRTY-FOURTH IMPRESSION.

L O N D O N:

Printed for the Company of STATIONERS; and sold by JOHN WILKIE, at their Hall, in Ludgate-street.

[Price NINE-PENCE stitched.]

Ephemerides.

Chronological Notes for the Year 1783.

Golden Number	- - - 17	Septuagesima Sunday	Feb. 16
Cycle of the Sun	- - - 28	Shrove Sunday	Mar. 2
The Epact	- - - 26	Easter Day	April 20
Dominical Letter	- - - E	Whit-Sunday	June 8
Number of Direction	- 30	Trinity Sunday	June 15
Roman Indiction	- - - 1	Advent Sunday	Nov. 30

Astronomical CHARACTERS explained.

♈ Aries	♋ Cancer	♎ Libra	♏ Capricorn
♉ Taurus	♌ Leo	♍ Scorpio	♐ Aquarius
♊ Gemini	♍ Virgo	♏ Sagitary	♑ Pisces
♄ Saturn	☉ Sol (the Sun)	☾ Luna (the Moon)	☿ Tellus,
♃ Jupiter	♀ Venus	♊ Moon's N. Node	Terra (or
♂ Mars	☿ Mercury	♋ her S. Node	the Earth)
♋ Conjunction when Planets are in the same Sign, Deg. Min. &c.			
* Sextile when 2 Signs dist.		△ Trine when 4 Signs dist.	
□ Quartile when 3 Signs dist.		♋ Opposition when 6 Signs dist.	

Of the Four Quarters of the YEAR 1783.

THE Spring Quarter begins on the 20th Day of March, at 4 Minutes past 5 at Night, apparent Time.

The Summer Quarter begins June the 21st, 12 Minutes past 3 in the Afternoon.

The Autumnal Quarter begins September the 23d, 49 Minutes past 4 in the Morning.

The Winter Quarter begins December the 21st, 13 Minutes past 9 at Night.

THE beautiful Planet **Venus** will be an Evening Star from the 4th Day of January till October the 22d, at which Time she becomes a Morning Star, and so continues to the Year's End.

JUPITER will be a Morning Star until the 20th Day of July; and after that Time he will be an Evening Star to the Year's End.

The NAMES of the Learned JUDGES of the LAW.

- I. The R. H. Edward Lord Thurlow, Lord High Chancellor of Great Britain.
Right Honourable Sir Thomas Sewell, Knt. Master of the Rolls.
- II. In the } R. H. Wm. Earl Mansfield, L. C. J. Edward Willes, Esq;
K. Bench. } Sir W. H. Ashurst, Knt. Francis Buller, Esq;
- III. In the } R. H. Alex. Lord Loughborough, L. C. J. Sir Henry Gould, Knt.
C. Pleas. } Sir George Nares, Knt. John Heath, Esq;
- IV. In the } Sir John Skynner, Knt. L. C. B. Sir James Eyre, Knt.
Exchequer } Sir Beaumont Hotham, Knt. Sir Richard Perryn, Knt.
Lloyd Kenyon, Esq; Attorney General.

A TABLE of TERMS and their RETURNS.

Hilary Term begins Jan. 23, ends Feb. 12.

Returns or Essoign-days.	Exc.	Ret.	Ap.	W. D.
In eight Days of St. Hilary, - - Jan. 20	21	22	23	Thursf.
From the Day of St. Hilary in 15 Days - 27	28	29	30	Thursf.
On the Morrow of the Purif. Blessed Mary, Feb. 3	4	5	6	Thursf.
In eight Days of the Purif. of Blessed Mary, - 9	10	11	12	Wedn.

Easter Term begins May 7, ends June 2.

From the Day of Easter in 15 Days, - May 4	5	6	7	Wedn.
From the Day of Easter in 3 Weeks, - - 11	12	13	14	Wedn.
From the Day of Easter in 1 Month, - - 18	19	20	21	Wedn.
From the Day of Easter in 5 Weeks, - 25	26	27	28	Wedn.
On the Morrow of the Ascension, - - 30	31	J.1	2	Monday

Trinity Term begins June 20, ends July 9.

On the Morrow of the Holy Trinity, - June 16	17	18	20	Friday
In 8 Days of the Holy Trinity, - - 22	23	24	25	Wedn.
In 15 Days of the Holy Trinity, - - 29	30	J.1	2	Wedn.
In 3 Weeks of the Holy Trinity, - July 6	7	8	9	Wedn.

Michaelmas Term begins Nov. 6, ends Nov. 28.

On the Morrow of All Souls, - - - Nov. 3	4	5	6	Thursf.
On the Morrow of St. Martin, - - - 12	13	14	15	Saturd.
In eight Days of St. Martin, - - - 18	19	20	21	Friday
In 15 Days of St. Martin, - - - 25	26	27	28	Friday

N. B. No Sittings in Westminster-Hall on Ascension-day, Midsummer-day, and the 2d of February.

The Exchequer opens eight Days before any Term begins, except Trinity, before which it opens but four Days.

Note, That the first and last Days of every Term, are the first and last Days of Appearance.

BIRTH-DAYS of the ROYAL FAMILY.

KING GEORGE III. June 4, 1738	Prince Adolph. Fred. Feb. 24, 1774
Prince of Wales, Aug. 12, 1762	Princess Mary, April 25, - 1776
Prince Frederick, Aug. 16, 1763	Princess Sophia, Nov. 3, - 1777
Prince Wm. Henry, Aug. 21, 1765	Prince Octavius, Feb. 23, - 1779
Prs. Cha. Aug. Mat. Sept. 29, 1766	Queen Charlotte, May 19, 1744
Prince Edward, Nov. 2, - 1767	Prs. Amelia, June 10, - 1711
Prs. Augusta Sophia, Nov. 8, 1768	Prs. Augusta of Brun. Aug. 11, 1737
Prs. Elizabeth, May 22, - 1770	Duke of Gloucester, Nov. 25, 1743
Prince Ernest Augustus, June 5, 1771	Duke of Cumberland, Nov. 7, 1745
Prince Aug. Fred. Jan. 27, 1773	

SOVEREIGNS of EUROPE, their Accession, &c.

Kingdoms, &c.	To whom subject.	When born.	Began to reign.
England, &c.	George III.	June 4, 1738	Oct. 25, 1760
France	Lewis XVI.	Aug. 23, 1754	May 10, 1774
Russia	Catharine II.	May 2, 1729	July 9, 1762
Spain	Charles III.	Jan. 20, 1716	Aug. 16, 1759
Portugal	Mary	Dec. 7, 1734	Feb. 24, 1777
Prussia	Frederic III.	Jan. 24, 1712	May 20, 1740
Denmark & Norway	Christian VII.	Jan. 29, 1749	Jan. 14, 1766
Sweden	Gustavus III.	Jan. 24, 1746	Feb. 13, 1771
Germany	Joseph	Mar. 13, 1741	Aug. 18, 1765
Poland	Stanislaus III.	Jan. 17, 1732	Nov. 25, 1764
Holland	William V.	March 8, 1748	Oct. 11, 1751
Papedom	Pius VI.	Dec. 27, 1717	Feb. 18, 1775
Sardinia	Victor	June 26, 1726	Mar. 20, 1773
Ottoman Empire	Achmet IV.	Nov. 5, 1719	Jan. 21, 1774

The FULL WEIGHT of the COINS, with the LEAST WEIGHT allowed to pass of the Gold Coin.

Wt. allowed.		Full Wt.		SILVER.		Full Wt.
GOLD. dwt. gr.		dwt. gr.				dwt. gr.
Guinea, - -	5 8	5	9 $\frac{3}{4}$	A Crown, - -	-	19 8 $\frac{1}{4}$
Half Guinea, -	2 16	2	16 $\frac{3}{4}$	Half Crown, -	-	9 16 $\frac{3}{4}$
Quarter Guinea, 1	8	1	8 $\frac{3}{4}$	Shilling, - -	-	3 20 $\frac{3}{4}$
				Six Pence, - -	-	1 22 $\frac{1}{4}$

According to the above proportions it appears, that the value of a *lb.* of silver is 62 s. or 3 l. 2 s. and of a *lb.* of gold is 44 $\frac{1}{2}$ guineas, or 46 l. 14 s. 6 d. Also that the *oz.* of silver is 5 s. 2 d. and the *oz.* of gold 3 l. 17 s. 10 $\frac{1}{2}$ d. So that the value of the standard gold is 15 times that of the silver, and 1-14th more.

A TABLE of the KINGS and QUEENS of ENGLAND since the CONQUEST.

Kings and Queens	Born A.D.	Began their Reign	Reigned Y. M. D.	Age	Rem. Deaths and Dethroned	Where buried
Will. Conq.	1027	1066 Oct. 14	20 10 26	60	Burst by Leap.	Caen, Norm
Will. Rufus	1057	1087 Sept. 9	12 10 24	43	Slain accidentally.	Winchester
Henry I.	1068	1100 Aug. 2	35 3 29	77		Reading
Stephen	1105	1135 Dec. 1	18 10 24	49		Feverham
Henry II.	1133	1154 Oct. 25	34 8 11	55		Fonteveraud
Richard I.	1156	1189 July 6	9 9 0	43	Slain with an Arrow.	Fonteveraud
John	1165	1199 April 6	17 6 13	50		Worcester
Henry III.	1207	1216 Oct. 19	56 0 28	65		Westminster
Edward I.	1230	1272 Nov. 16	34 7 21	67		Westminster
Edward II.	1284	1307 July 7	19 6 18	43		Gloucester
Edward III.	1312	1327 Jan. 25	50 4 27	65		Westminster
Richard II.	1366	1377 June 21	22 3 8	33	Dep. & murd.	Westminster
Henry IV.	1367	1399 Sept. 29	13 5 20	46		Canterbury
Henry V.	1389	1413 Mar. 20	9 5 11	33		Westminster
Henry VI.	1421	1422 Aug. 31	38 6 4	49	Dep. & murd.	Windfor
Edward IV.	1442	1461 Mar. 4	22 1 5	41		Windfor
Edward V.	1471	1483 April 9	0 2 15	12	Murder'd.	Not known
Richard III.	1443	1483 June 22	2 2 0	42	Slain in Battle.	Leicester
Henry VII.	1456	1485 Aug. 22	23 8 0	52		Westminster
Henry VIII.	1492	1509 April 22	37 9 6	55		Windfor
Edward VI.	1537	1547 Jan. 28	6 5 8	15		Westminster
Mary I.	1516	1553 July 6	5 4 11	42	Died of Grief.	Westminster
Elizabeth	1533	1558 Nov. 17	44 4 7	69		Westminster
James I.	1566	1603 Mar. 24	22 0 3	58		Westminster
Charles I.	1600	1625 Mar. 27	23 10 3	48	Beheaded.	Windfor
Charles II.	1630	1649 Jan. 30	36 0 7	54		Westminster
James II.	1633	1685 Feb. 6	4 0 7	67	Abdicated.	St. Germain
Mary II.	1662	1689 Feb. 13	5 10 15	32		Westminster
William III.	1650	1689 Feb. 13	13 0 23	52	Kill'd by a Fall from his Horse.	Westminster
Anne	1665	1702 Mar. 8	12 4 24	49		Westminster
George I.	1660	1714 Aug. 1	12 10 10	67		Hanover
George II.	1683	1727 June 11	33 4 14	77		Westminster
George III.	1738	1760 Oct. 25	Crowned Sept. 22, 1761.			

Above you view the Rise and Fall of Kings,
 Whose Fate sometimes a useful Lesson brings,
 Well if all Men could profit from the past!
 Each know his Duty, each excel the last,
 And justly execute his stated Task.

A TABLE of the most Reverend, Right Reverend, and Reverend, the ARCHBISHOPS, BISHOPS and DEANS, exercising Ecclesiastical Jurisdiction, 1783.

BISHOPS.	Sees.	Date.	Succeeded.	DEANS.
H. Dr. F. Cornwallis Arch-Bishop	<i>Litch. & Cov.</i>	1749	Smallbroke de.	
Dr. Will. Markham Arch-Bishop	Canterb. A. B.	1768	Secker decaf.	Dr. Horne
	<i>Chester</i>	1748	Keene transl.	
	York A. B.	1777	Drummond de.	Dr. J. Fountayne
	<i>St. David's</i>	1761	Squire decaf.	
Dr. Robert Lowth	<i>Oxford</i>	1757	Hume transl.	
	London	1777	Terrick dec.	Bishop Thurlow
Dr. John Egerton	<i>Bangor</i>	1754	Willes transl.	
	Durham	1752	Trevor decaf.	Hon. W. Digby
	<i>Litch & Cov.</i>	1768	Cornwallis tr.	
Hon. Dr. B. North	<i>Worcester</i>	1775	Johnson decaf.	
	Winchester	1781	Thomas decaf.	Dr. Ogle
Lord J. Beauclerk	Hereford	1746	Egerton decaf.	Dr. Wetherell
Sir W. Ashburnham	Chichester	1754	Mawson transl.	Dr. Harward
Dr. S. Barrington	<i>Landaff</i>	1758	Shipley transl.	
	Salisbury	1766	Hume dec.	Dr. Noel
Dr. Philip Yonge	<i>Bristol</i>	1758	Hume transl.	
	Norwich	1761	Hayter transl.	Dr. P. Lloyd
Dr. Lewis Bagot	Bristol	1782	Newton, dec.	Dr. Hallam
Dr. Charles Mofs	<i>St. David's</i>	1766	Clagget transl.	
	Bath & Wells	1774	Willes deceased	Ld. Fr. Seymour
Dr. J. Shipley	St. Asaph	1769	Newcome dec.	Dr. W. D. Shipley
Dr. Edmund Law	Carlisle	1769	Lyttelton dec.	Dr. Ekins
Dr. Watfon	Landaff	1782	Barrington tr.	Dr. Adams, A. D.
Dr. John Hinchcliffe	Peterborough	1769	Lamb dec.	Dr. Ch. Tarrant
H. Dr. James Yorke	<i>Gloucester</i>	1779	Warburton dec.	
	Ely	1781	Keene deceased	Dr. Cooke
Dr. John Thomas	Rocheſter	1774	Pearce dec.	Dr. Dampier
Dr. Hurd	<i>Litch. & Cov.</i>	1775	B. North tr.	
	Worcester	1781	B. North tr.	Dr. Foley
Dr. Moore	Bangor	1775	Ewer deceased	Dr. Tho. Lloyd
Dr. Beilby Porteus	Chester	1777	Markham tran.	Dr. Will. Smith
Dr. John Butler	Oxford	1777	Lowth transl.	Bishop Bagot
Dr. John Roſs	Exeter	1778	Keppel dec.	Dr. Jer. Milles
Dr. Thurlow	Lincoln	1779	Green dec.	Dr. Cuſt
Dr. John Warren	St. David's	1779	Yorke transl.	Mr. Wollaston, P.
Dr. J. Cornwallis	Litch. & Cov.	1781	Hurd transl.	Dr. Proby
Dr. Samuel Hallifax	Gloucester	1781	Yorke transl.	Dr. Joſiah Tucker
	Westminster	1768		Bishop Thomas
Dr. George Maſon	Sodor & Man	1779	Richmond dec.	
	Windſor	1778	Hon. &	Rev. Dr. Harley

A General INTEREST TABLE,

by which the Interest of any Sum, at any Rate, and for any Time, may be readily found.

Days	3 per Cent.				3½ per Cent.				4 per Cent.				4½ per Cent.				5 per Cent.			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
1			1	3			2	1			2	2			3	0			3	0
2			3	3			4	2			5	1			6	0			6	2
3			5	3			6	3			7	3			8	3			9	3
4			7	3			9	0			10	2			11	3			1	0
5			9	3			11	2		1	1	1		1	2	3		1	4	1
6			11	3		1	1	3		1	3	3		1	5	3		1	7	2
7		1	1	3		1	4	0		1	6	1		1	8	3		1	11	0
8		1	3	3		1	6	1		1	9	0		1	11	3		2	2	1
9		1	5	3		1	8	2		1	11	2		2	2	2		2	5	2
10		1	7	2		1	11	0		2	2	1		2	5	2		2	8	3
20		3	3	1		3	10	0		4	4	2		4	11	1		5	5	3
30		4	11	0		5	9	0		6	6	3		7	4	3		8	2	2
40		6	6	3		7	8	0		8	9	0		9	10	1		10	11	2
50		8	2	2		9	7	0		10	11	2		12	3	3		13	8	1
60		9	10	1		11	6	0		13	1	3		14	9	2		16	5	1
70		11	6	0		13	5	0		15	4	0		17	3	1		19	1	0
80		13	1	3		15	4	0		17	6	1		19	8	3	1	1	11	0
90		14	9	2		17	3	0		19	8	2	1	2	2	1	1	4	7	3
100		16	5	1		19	2	0	1	1	11	0	1	4	8	0	1	7	4	3
200	1	12	10	2	1	18	4	1	2	3	10	0	2	9	3	3	2	14	9	2
300	2	9	3	3	2	17	6	1	3	5	9	0	3	13	11	14	2	2	2	1

N. B. This Table contains the interest of 100l. for all the several days in the 1st column, and at the several rates of 3, 3½, 4, 4½, and 5 per cent. in the other 5 columns.

To find the interest of 100l. for any other time, as 1 year and 278 days, at 4½ per cent. Take the sums for the several days here annexed.

The interest for 1 year	4	10	0	0
Against 200 days is	-	2	9	3
70 days	-	0	17	3
8 days	-	0	1	11
Interest required	-	7	18	6

For any other Sum than 100l. First find for 100l. as above, and take it so many times or parts as the sum is of 100l. Thus, to find for 355l. at 4½, for 1 year and 278 days,

First, 3 times the above sum, (for 300l.) is	-	23	15	8
½ (for 50l.) is	-	3	19	3
1/10 of this (for 5l.) is	-	0	7	11
So for 355 it is	-	28	2	10

When the interest is required for any other rate than those in the table, it may easily be made out from them. So ½ of 5 is 2½, ½ of 4 is 2, ½ of 3 is 1½, ⅓ of 3 is 1, 1-6th of 3 is ½, and 1-12th of 3 is ¼. And so, by parts, or by adding or subtracting, any rate may be made out.

THE LUNATIONS.

New Moon the 3d day, 40 minutes past 7 morning,
 First quarter the 10th day, 22 minutes past 9 morning,
 Full Moon the 18th day, 11 minutes past 2 afternoon,
 Last quarter the 26th day, 2 minutes past 3 morning.

M	Sundays & other D remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ south	Clock bef. ☉	
1	Circumcision	8 5	3 55	23 8	0 27	6 m 32	10 m 1	4 7	
2		8 4	3 56	22 55	28 28	7 54	11 7	4 36	
3		8 3	3 57	22 49	27 22	☾ sets	0 a 14	5 4	
4		8 3	3 57	22 43	24 8	5 a 12	1 17	5 31	
5	2 S. aft. Christ.	Old Christ. day		22 36	19 42	6 43	2 14	5 58	
6	Epiphany	8 1	3 59	22 29	14 8	8 12	3 6	6 25	
7		8 0	4 0	22 22	8 3	9 32	3 53	6 51	
8	Lucian	7 59	4 1	22 14	1 49	10 48	4 36	7 17	
9		7 58	4 2	22 5	4 n 17	morn.	5 18	7 42	
10		7 57	4 3	21 56	10 3	0 2	5 59	8 6	
11		7 56	4 4	21 47	15 20	1 16	6 42	8 30	
12	1 S. aft. Epiph.	O. N. Year's day		21 37	19 57	2 30	7 26	8 53	
13	C. m. Term beg.	Hil. Pl. Mond.		21 27	23 44	3 44	8 12	9 16	
14	Oxf. Term beg.	7 53	4 7	21 17	26 31	4 56	9 0	9 37	
15		7 52	4 8	21 6	28 8	6 4	9 51	9 59	
16		7 51	4 9	20 54	28 27	7 0	10 42	10 19	
17	O. Twelfth day	7 49	4 11	20 43	27 26	7 46	11 34	10 39	
18	Q. Char. b. d. k.	Prisca	4 12	20 31	25 5	☾ rises	morn.	10 58	
19	2 S. aft. Epiph.	7 47	4 13	20 18	21 34	5 a 5	0 24	11 16	
20	Fabian	7 45	4 15	20 5	17 2	6 23	1 12	11 34	
21	Agnes	7 44	4 16	19 52	11 42	7 42	1 57	11 51	
22	Vincent	7 42	4 18	19 38	5 49	8 59	2 41	12 7	
23	Hil. Term beg.	7 41	4 19	19 24	0 s 24	10 17	3 24	12 22	
24		7 40	4 20	19 10	6 44	11 36	4 8	12 37	
25	Conv. St. Paul	7 38	4 22	18 55	12 52	morn.	4 54	12 51	
26	3 S. aft. Epiph.	7 37	4 23	18 40	18 31	1 1	5 43	13 4	
27	Pr. Aug. Fred. b.	7 35	4 25	18 24	23 17	2 29	6 37	13 16	
28		7 33	4 27	18 9	26 44	3 58	7 35	13 27	
29		7 32	4 28	17 53	28 27	5 23	8 38	13 38	
30	K. Charl. I. mar.	7 30	4 30	17 36	28 10	6 31	9 44	13 47	
31		7 28	4 32	17 19	25 53	7 18	10 47	13 56	
Day	Day increaf.	Length of Day.	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☾	Helioc. long. ♀	Helioc. long. ☽	☾ rises.
1	0 8	7 52	3 59	10 35	29 47	11 54	9 15	19 46	7 m 33
7	0 18	8 2	4 10	11 5	2 40	17 12	18 44	6 35	7 10
13	0 30	8 14	4 20	11 35	5 35	23 19	28 13	24 30	6 47
19	0 44	8 28	4 31	12 5	8 31	29 25	7 42	14 25	6 25
25	1 2	8 46	4 42	12 35	11 29	5 31	17 11	7 29	6 2

1783.

January.

9

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	5 59	6 1	2 10	2 ♀ 1	0 n 42	0 s 2	0 n 26	0 s 36	1 s 17
7	5 56	6 4	2 9	1 42	0 42	0 3	0 22	0 48	1 45
13	5 52	6 8	2 7	1 22	0 41	0 3	0 19	0 59	2 1
19	5 46	6 14	2 5	1 3	0 41	0 4	0 14	1 9	2 5
25	5 30	6 21	2 3	0 44	0 41	0 4	0 10	1 17	1 52
Days	☉'s longitude	☽'s long.	☽'s latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.	♀'s long.
1	11 4 23	15 17	4 s 49	4 37	10 40	25 50	10 18	4 16	
2	12 5 36	15 29	5 1	4 44	10 54	26 30	11 34	5 51	
3	13 6 49	15 40	4 51	4 51	11 8	27 10	12 49	7 26	
4	14 8 2	15 39	4 22	4 58	11 21	27 50	14 5	9 2	
E	15 9 14	15 17	3 36	5 5	11 35	28 31	15 20	10 37	
6	16 10 26	29 27	2 38	5 12	11 49	29 11	16 36	12 13	
7	17 11 37	13 8	1 31	5 19	12 3	29 51	17 51	13 49	
8	18 12 48	26 19	0 23	5 26	12 17	0 31	19 7	15 27	
9	19 13 58	9 5	0 n 44	5 32	12 31	1 11	20 22	17 5	
10	20 15 7	21 30	1 48	5 39	2 45	1 52	21 38	18 43	
11	21 16 16	3 38	2 45	5 46	12 59	2 32	22 53	20 22	
E	22 17 24	15 36	3 35	5 53	13 13	3 12	24 9	22 1	
13	23 18 31	27 28	4 14	6 0	13 27	3 52	25 24	23 40	
14	24 19 37	9 18	4 42	6 7	13 41	4 32	26 39	25 20	
15	25 20 43	21 10	4 59	6 13	13 55	5 13	27 55	27 1	
16	26 21 47	3 7	5 2	6 20	14 8	5 53	29 10	28 42	
17	27 22 51	15 11	4 52	6 27	14 22	6 34	0 25	0 24	
18	28 23 54	27 23	4 28	6 34	4 36	7 14	1 41	2 6	
E	29 24 56	9 43	3 52	6 41	14 50	7 55	2 56	3 49	
20	0 25 57	22 12	3 4	6 47	15 4	8 35	4 12	5 32	
21	1 26 58	4 51	2 7	6 54	15 17	9 16	5 27	7 15	
22	2 27 59	17 41	1 2	7 1	15 31	9 56	6 42	8 59	
23	3 28 59	0 43	0 s 8	7 8	15 45	10 37	7 58	10 43	
24	4 29 58	13 59	1 18	7 14	15 58	11 17	9 13	12 28	
25	5 30 56	27 31	2 26	7 21	16 12	11 58	10 28	14 13	
E	6 31 54	11 21	3 26	7 28	16 27	12 38	11 43	15 58	
27	7 32 51	25 28	4 16	7 34	16 41	13 19	12 59	17 44	
28	8 33 48	9 52	4 50	7 41	16 55	13 59	14 14	19 29	
29	9 34 43	24 31	5 6	7 47	17 9	14 40	15 29	21 14	
30	10 35 38	9 17	5 2	7 53	17 23	15 20	16 44	22 58	
31	11 36 13	24 6	4 38	8 0	17 37	16 1	18 0	24 41	
Days	☽ rises	♂ rises	♀ rises	♂ rises	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	8 m 3	4 m 21	8 m 6	7 m 53	22 s 41	23 s 4	18 s 49	23 s 40	24 s 41
7	7 41	4 18	sets	8 0	22 40	22 58	19 47	23 4	24 29
13	7 21	4 15	4 a 14	sets	22 38	22 50	20 38	22 3	23 22
19	7 0	4 12	4 a 28	4 a 29	22 37	22 42	21 25	20 38	21 20
25	6 39	4 9	4 43	5 4	22 35	22 33	22 5	18 52	18 22

10 February hath XXVIII Days. White.

The LUNATIONS.

New Moon the 1st day at 50 minutes past 6 at night,
 First quarter the 9th day at 18 minutes past 5 morning,
 Full Moon the 17th day at 2 minutes past 7 morning,
 Last quarter the 24th day at 15 minutes past 11 morning,

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ south	Clock bef. ☉
1	4 S. aft. Epiph.	7 27	4 33	17 2	21 53	☽ sets 11 m 48	14 5	
2	Blaise	7 23	4 37	16 45	16 36	5 a 30	14 12	
3	Agatha	7 22	4 38	16 10	4 12	6 55	14 19	
4		7 20	4 40	15 51	2 n 10	8 17	14 24	
5		7 18	4 42	15 33	8 15	9 35	14 29	
6		7 16	4 44	15 14	13 50	10 51	14 33	
7		7 15	4 45	14 55	18 46	morn 0 7	14 36	
8	5 S. aft. Epiph.	7 13	4 47	14 36	22 52	1 22	14 39	
9		7 11	4 49	14 17	25 59	2 37	14 40	
10		7 9	4 51	13 57	27 57	3 47	14 41	
11	Hil. Term ends	7 7	4 53	13 37	23 39	4 48	14 40	
12		7 5	4 55	13 17	23 0	5 38	14 38	
13	Valentine	7 3	4 57	12 57	26 1	6 15	14 36	
14		7 2	4 58	12 36	22 48	6 42	14 33	
15	Septuagesima	7 0	5 0	12 15	18 25	7 1	14 29	
16		6 58	5 2	11 54	13 14	☽ rises morn	14 24	
17		6 56	5 4	11 33	7 21	6 a 43	14 19	
18		6 54	5 6	11 12	1 4	8 1	14 13	
19		6 52	5 8	10 50	5 s 22	9 22	14 6	
20		6 50	5 10	10 29	11 40	10 47	13 59	
21	Sexages. Sunday	6 48	5 12	10 7	17 28	morn 3 39	13 51	
22	St. Matthias	Pr. Octavius b.	9 45	22 26	0 15	4 30	13 42	
23		Pr. Adol. Fref. b.	9 23	26 10	1 44	5 27	13 33	
24		6 42	5 18	9 1	28 19	3 9	13 24	
25		6 40	5 20	8 38	28 35	4 24	13 13	
26		6 38	5 22	8 16	26 57	5 15	13 3	
27		6 37	5 23	7 53	23 34	5 50	12 51	
28								

Days	Day increas.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h rises
1	1 24	9 8	4 55	13 17	14 m 58	12 37	28 15	10 4	5 m 36
7	1 42	9 31	5 5	13 47	18 0	18 42	7 45	13 42	5 15
13	2 7	9 51	5 16	14 17	21 3	24 46	17 16	21 11	4 54
19	2 31	10 15	5 27	14 47	24 9	24 49	26 48	27 46	4 32
25	2 55	10 40	5 28	15 16	27 16	6 51	6 21	20 47	4 10

1783.

February.

II

Day	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	5 31	6 30	2 0	0 V 22	0 n 40	0 s 5	0 n 5	1 s 24	1 s 9
7	5 12	6 39	1 59	0 3	0 40	0 6	0 0	1 26	0 4
13	5 12	6 48	1 57	29 X 44	0 40	0 7	0 s 5	1 28	1 n 24
19	5 0	7 0	1 57	29 25	0 39	0 7	0 10	1 26	2 53
25	4 50	7 10	1 56	29 6	0 39	0 8	0 16	1 23	3 42
Day	☉'s longitude	☽'s long.	☽'s latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.	
1	12 37 25	8 47	3 s 56	8 6	17 51	16 42	19 15	26 23	
E	13 38 17	23 13	2 59	8 12	18 4	17 22	20 30	28 3	
3	14 39 17	7 X 19	1 52	8 18	18 18	18 3	21 46	29 42	
4	15 39 56	20 59	0 41	8 24	18 31	18 44	23 1	1 X 20	
9	16 40 43	4 V 14	0 n 31	8 30	18 45	19 24	24 16	2 55	
6	17 41 29	17 5	1 39	8 36	18 58	20 5	25 31	4 26	
7	18 42 14	29 34	2 41	8 42	19 11	20 46	26 46	5 54	
8	19 42 57	11 8 47	3 34	8 48	19 24	21 27	28 2	7 16	
E	20 43 37	23 47	4 16	8 53	19 36	22 7	29 17	8 34	
10	21 44 16	5 H 41	4 57	8 59	19 49	22 48	0 X 32	9 46	
11	22 44 53	17 32	5 5	9 4	20 1	23 29	1 47	10 52	
12	23 45 28	29 26	5 11	9 10	20 14	24 9	3 2	11 50	
15	24 46 1	11 26 26	5 3	9 15	20 27	24 50	4 17	12 40	
14	25 46 33	23 35	4 41	9 21	20 39	25 31	5 32	13 24	
15	26 47 7	5 Ω 55	4 7	9 26	20 52	26 12	6 47	13 56	
E	27 47 31	18 28	3 19	9 32	21 5	26 33	8 2	14 18	
17	28 47 58	1 12 15	2 21	9 37	21 17	27 33	9 17	14 30	
18	29 48 24	14 14	1 14	9 43	21 30	28 14	10 31	14 R 33	
19	X 0 48 47	27 26	0 3	9 48	21 42	28 55	11 46	14 27	
20	1 49 9	10 51	1 s 10	9 54	21 54	29 36	13 1	14 11	
21	2 49 29	24 26	2 21	9 59	22 7	0 17	14 16	13 45	
22	3 49 48	8 13	3 24	10 4	22 19	0 58	15 31	13 8	
E	4 50 6	22 10	4 16	10 10	22 32	1 39	16 45	12 26	
24	5 50 22	6 15	4 53	10 15	22 44	2 20	18 0	11 36	
25	6 50 36	20 28	5 12	10 20	22 55	3 1	19 15	10 40	
26	7 50 49	4 46	5 13	10 25	23 7	3 41	20 30	9 40	
27	8 51 1	19 6	4 54	10 30	23 19	4 22	21 45	8 38	
28	9 51 12	3 25	4 17	10 34	23 30	5 3	22 59	7 36	
Day	☽ rises	♂ rises	♀ sets	♂ sets	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	6 m 16	4 m 5	5 a 5	5 249	22 s 33	22 s 21	22 s 44	16 s 23	13 s 49
7	5 57	4 1	5 27	6 21	22 30	22 12	23 10	13 59	9 25
13	5 38	3 57	5 47	6 42	22 28	22 2	23 27	11 19	5 32
19	5 19	3 52	6 7	6 39	22 26	21 50	23 38	8 30	3 27
25	5 0	3 48	6 26	5 50	22 24	21 39	23 42	5 32	4 9

The LUNATIONS.

New Moon the 3d day at 13 minutes past 7 morning,

First quarter the 11th day at 2 in the morning,

Full Moon the 18th day at 23 minutes past 9 at night,

Last quarter the 25th day at 57 minutes past 5 at night.

M.	Sundays & other D	remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South.	Clock bef. ☉
1	David		6 35	5 25	7 s 30	18 s 48	6 m 14	10 m 33	12 39
2	Quinqu. Sunday	Chad	33	5 27	7 7	13 5	6 32	11 24	12 27
3			6 31	5 29	6 44	6 49	☽ sets	0 a 12	12 14
4	Shrove Tuesda		6 29	5 31	6 21	0 23	7 a 12	0 57	12 1
5	Ash Wednesda		6 27	5 33	5 58	5 n 56	8 30	1 41	11 47
6			6 25	5 35	5 35	11 50	9 48	2 25	11 33
7	Perpetua		6 23	5 37	5 12	17 8	11 6	3 9	11 19
8			6 21	5 39	4 48	21 37	morn	3 56	11 4
9	Quad. 1 S. in Lent		6 19	5 41	4 25	25 9	0 21	4 44	10 48
10			6 17	5 43	4 1	27 31	1 34	5 34	10 33
11			6 15	5 45	3 38	28 40	2 43	6 26	10 16
12	Ember Week	Gregor.		5 47	3 14	28 28	3 38	7 18	10 0
13			6 11	5 49	2 51	26 57	4 19	8 10	9 43
14			6 9	5 51	2 27	24 9	4 51	8 59	9 26
15			6 7	5 53	2 2	20 11	5 14	9 47	9 9
16	2 Sun. in Lent.		6 5	5 55	1 40	15 15	5 28	10 34	8 51
17	St. Patrick		6 3	5 57	1 16	9 31	5 40	11 20	8 33
18	Edw. K. W. S.		6 1	5 59	0 52	3 15	☽ rises	morn	8 15
19	Equal d. and n.		5 59	6 1	0 29	3 s 19	7 a 12	0 6	7 57
20			5 57	6 3	0 5	9 51	8 35	0 52	7 39
21	Benedict		5 55	6 5	0 n 19	15 59	10 5	1 41	7 20
22			5 53	6 7	0 42	21 19	11 35	2 33	7 2
23	3 Sun. in Lent		5 51	6 9	1 6	25 28	morn	3 29	6 43
24			5 49	6 11	1 30	28 1	1 5	4 30	6 25
25	Annac. Ladye		5 47	6 13	1 53	28 44	2 22	5 33	6 6
26			5 45	6 15	2 17	27 33	3 22	6 36	5 47
27			5 43	6 17	2 40	24 38	4 2	7 36	5 29
28			5 41	6 19	3 4	20 18	4 28	8 33	5 10
29			5 39	6 21	3 27	14 57	4 47	9 25	4 51
30	or Ascient S.		5 37	6 23	3 50	8 57	5 3	10 14	4 33
31			5 35	6 25	4 14	2 38	5 15	11 0	4 15
☉	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
☽	increas.	of day	long. ♀	long. ♀	long. ♂	long. ♂	long. ♀	long. ♂	rises
1	3 9	10 53	5 45	15 37	29 12	10 25	12 43	18 0	3 m 57
7	3 33	11 17	5 56	16 7	2 32	16 52	22 17	11 25	3 36
13	3 57	11 41	6 7	16 37	5 44	22 50	18 52	11 26	3 16
19	4 21	12 5	6 17	17 8	8 59	28 48	11 28	19 20	2 55
25	4 45	12 29	6 28	17 38	12 15	4 44	21 6	6 17	2 36

1783.

March.

13

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. (C's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	4 43	7 17	1 55	28 X 53	0 n 40	0 s 8	0 s 20	1 s 19	3 n 34
7	4 30	7 30	1 56	28 34	0 40	0 9	0 26	1 11	2 31
13	4 17	7 43	1 57	28 15	0 40	0 10	0 33	1 2	1 4
19	4 5	7 56	1 58	27 56	0 40	0 11	0 40	0 50	0 s 35
25	3 50	8 10	2 0	27 37	0 39	0 11	0 47	0 37	1 18
Days	C's longitude		C's long.	C's latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.
1	X 10	51 20	17 X 36	3 s 24	10 39	23 42	5 44	24 X 14	6 X 34
E	11	51 28	1 X 37	2 20	10 44	23 54	6 25	25 29	5 34
3	12	51 33	15 23	1 8	10 48	24 5	7 6	26 44	4 37
4	13	51 36	28 50	0 n 6	10 53	24 16	7 47	27 58	3 44
5	14	51 37	11 V 58	1 18	10 57	24 28	8 28	29 13	2 55
6	15	51 36	24 47	2 24	11 24	39 9	9 9	0 V 28	2 13
7	16	51 33	7 X 17	3 22	11 6	24 50	9 50	1 42	1 37
8	17	51 28	19 32	4 9	11 10	25 2	10 31	2 57	1 7
E	18	51 21	1 II 35	4 44	11 14	25 13	11 12	4 11	0 44
10	19	51 11	13 30	5 7	11 18	25 24	11 53	5 26	0 27
11	20	50 59	25 23	5 17	11 21	25 34	12 34	6 40	0 17
12	21	50 44	7 X 17	5 13	11 25	25 45	13 15	7 55	0 D 13
13	22	50 27	19 17	4 55	11 29	25 55	13 56	9 9	0 15
14	23	50 8	1 Q 28	4 24	11 32	26 5	14 37	10 24	0 23
15	24	49 47	13 54	3 40	11 36	26 16	15 18	11 38	0 36
E	25	49 23	26 36	2 45	11 39	26 26	15 59	12 52	0 55
17	26	48 57	9 M 36	1 39	11 43	26 36	16 40	14 7	1 19
18	27	48 29	22 54	0 27	11 46	26 46	17 21	15 21	1 47
19	28	47 59	6 A 31	0 s 48	11 49	26 55	18 2	16 35	2 20
20	29	47 27	20 22	2 2	11 53	27 5	18 43	17 49	2 57
21	V 0	46 54	4 II 26	3 9	11 56	27 15	19 24	19 4	3 38
22	1	46 18	18 38	4 6	11 59	27 24	20 5	20 18	4 24
E	2	45 41	2 f 55	4 48	12 2	27 34	20 46	21 32	5 13
24	3	45 2	17 12	5 12	12 4	27 44	21 27	22 45	6 5
25	4	44 21	1 V 28	5 16	12 7	27 53	22 8	23 59	6 59
26	5	43 39	15 38	5 2	12 10	28 2	22 49	25 13	7 56
27	6	42 54	29 40	4 29	12 12	28 10	23 30	26 26	8 56
28	7	42 8	13 X 34	3 42	12 14	28 18	24 11	27 40	10 0
29	8	41 21	27 18	2 41	12 17	28 26	24 52	28 54	11 6
E	9	40 31	10 X 50	1 33	12 19	28 34	25 33	0 X 8	12 14
31	10	39 40	24 9	0 21	12 21	28 41	26 14	1 22	13 24
Days	u's rises	♂'s rises	♀'s sets	♂'s rises	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	4 m 49	3 m 45	6 a 39	6 m 6	22 s 23	21 s 31	23 s 41	3 s 30	5 s 48
7	4 30	3 41	6 59	5 41	22 20	21 20	23 32	0 24	8 34
13	4 11	3 35	7 21	5 24	22 18	21 9	23 17	2 n 41	10 24
19	3 52	3 28	7 43	5 13	22 16	20 58	23 54	5 45	10 53
25	3 33	3 21	8 4	5 6	22 15	20 47	22 25	8 44	10 10

The LUNATIONS.

New Moon the 1st day at 50 minutes past 8 at night,
 First quarter the 9th day at 40 minutes past 9 at night,
 Full Moon the 17th day at 47 minutes past 8 morning,
 Last quarter the 23d day at 23 minutes past midnight.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock bef. ☉	
1		5 33	6 27	4 n 37	3 n 40	☾ sets 11 m 42	3 56		
2		5 31	6 29	5 0	9 43	7 a 34	0 a 26	3 38	
3	Richard.	5 29	6 31	5 23	15 16	8 51	1 11	3 20	
4	St. Ambrose.	5 27	6 33	5 46	20 6	10 10	1 57	3 2	
5	Old Lady day.	5 25	6 35	6 8	24 0	11 26	2 45	2 4	
6	Sun. in Lent	5 23	6 37	6 31	26 49	morn	3 34	2 26	
7		5 21	6 39	6 54	28 23	0 36	4 25	2 9	
8		5 20	6 40	7 16	28 39	1 36	5 17	1 52	
9		5 18	6 42	7 39	27 35	2 23	6 8	1 35	
10		5 16	6 44	8 1	25 15	2 56	6 58	1 18	
11	Camb. T. ends	5 14	6 46	8 23	21 45	3 21	7 46	1 2	
12	Oxf. Term ends	5 12	6 48	8 45	17 13	3 42	8 33	0 45	
13	Palm Sunday	5 10	6 50	9 7	11 51	3 54	9 18	0 29	
14		5 8	6 52	9 28	5 49	4 7	10 3	0 14	
15		5 6	6 54	9 50	0 s 40	4 19	10 50	0 a 1	
16		5 4	6 56	10 11	7 18	4 31	11 38	0 16	
17	Maundy Thurs.	5 2	6 58	10 32	13 44	☾ rises	morn	0 31	
18	Good Friday	5 0	7 0	10 53	19 32	9 a 18	0 30	0 45	
19	Alphege	4 58	7 2	11 14	24 13	10 51	1 27	0 59	
20	Easter day	4 57	7 3	11 34	27 23	morn	2 27	1 12	
21	Easter Monday	4 55	7 5	11 55	28 39	0 16	3 31	1 25	
22	Easter Tuesday	4 53	7 7	12 15	27 55	1 24	4 35	1 38	
23	St. George	4 51	7 9	12 35	25 21	2 10	5 37	1 50	
24		4 49	7 11	12 55	21 19	2 41	6 36	2 1	
25	St. Mark	Pra. May bay.			13 15	16 12	3 1	7 29	2 12
26		4 46	7 14	13 34	10 24	3 16	8 18	2 23	
27	1 S. aft. Easter	4 44	7 16	13 53	4 15	3 28	9 3	2 33	
28		4 42	7 18	14 12	1 n 57	3 38	9 45	2 42	
29		4 40	7 20	14 31	7 59	3 48	10 29	2 51	
30	Ox. & Co. T. beg.	4 38	7 22	14 49	13 37	4 0	11 12	3 0	
Days	Day increas.	Length of day	Helioc. long. ♀	Helioc. long. ☿	Helioc. long. ♂	Helioc. long. ☾	Helioc. long. ♀	Helioc. long. ☿	h rises
1	5 12	12 55	6 41	18 8	16 4	7 11	21 39	2 11	2 12
7	5 35	13 19	6 52	18 38	19 28	17 33	12 0	12 28	1 51
13	5 57	13 47	7 2	19 9	21 23	25 21	41 0	5 5	1 30
19	6 21	14 5	7 13	19 39	26 16	29 17	1 22	21 4	1 8
25	6 43	14 27	7 22	20 10	29 43	5 m 7	11 5	16 11	0 44

1783.

April.

15

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	h's latitude	☿'s latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	3 33	8 27	2 3	27X15	0 n 39	0 s 12	0 s 56	0 s 20	2 s 7
7	3 17	8 43	2 8	26 56	0 39	0 13	1 4	0 5	2 30
13	3 2	8 58	2 11	26 36	0 39	0 14	1 12	0 n 12	2 33
19	2 47	9 13	2 15	26 17	0 39	0 15	1 21	0 28	2 18
25	2 26	9 34	2 25	25 58	0 39	0 16	1 30	0 45	1 44
Days	☉'s longitude	☾'s long.	☾'s latitude	h's long.	☿'s long.	♂'s long.	♀'s long.	♂'s long.	♀'s long.
1	11 38 47	7 15	0 n 52	12 23	28 49	26 55	2 36	14 37	14 37
2	12 37 52	20 7	2 6	12 25	28 57	27 36	3 49	15 52	15 52
3	13 36 54	2 44	3 1	12 26	29 5	28 17	5 3	17 9	17 9
4	14 35 54	15 9	3 52	12 28	29 13	28 58	6 17	18 27	18 27
5	15 34 52	27 21	4 32	12 29	29 20	29 39	7 31	19 47	19 47
E	16 33 48	9 11 24	4 59	12 31	29 28	0 20	8 45	21 9	21 9
7	17 32 42	21 19	5 13	12 32	29 36	1 1	9 58	22 34	22 34
8	18 31 34	3 11	5 13	12 33	29 44	1 42	11 12	24 0	24 0
9	19 30 23	15 5	5 0	12 35	29 51	2 23	12 25	25 28	25 28
10	20 29 10	27 4	4 34	12 36	29 58	3 4	13 38	26 57	26 57
11	21 27 54	9 14	3 56	12 38	0 5	3 44	14 51	28 28	28 28
12	22 26 36	21 39	3 5	12 39	0 11	4 25	16 5	0 1	0 1
E	23 25 15	4 23	2 5	12 40	0 18	5 6	17 18	1 35	1 35
14	24 23 53	17 29	0 56	12 41	0 25	5 47	18 31	3 11	3 11
15	25 22 29	0 59	0 s 18	12 41	0 31	6 28	19 44	4 49	4 49
16	26 21 3	14 52	1 33	12 42	0 37	7 8	20 58	6 28	6 28
17	27 19 34	29 7	2 44	12 42	0 43	7 49	22 11	8 10	8 10
18	28 18 3	13 38	3 45	12 42	0 48	8 30	23 21	9 53	9 53
19	29 16 31	28 20	4 33	12 43	0 54	9 11	24 37	11 38	11 38
E	30 14 57	13 3	5 2	12 43	1 0	9 52	25 50	13 24	13 24
21	1 13 22	27 42	5 12	12 43	1 5	10 32	27 3	15 11	15 11
22	2 11 45	12 11	5 1	12 43	1 11	11 13	28 16	17 0	17 0
23	3 10 7	26 26	4 32	12 43	1 16	11 54	29 39	18 51	18 51
24	4 8 27	10 24	3 48	12 42	1 21	12 34	0 11 42	20 44	20 44
25	5 6 46	24 5	2 51	12 42	1 25	13 15	1 54	22 38	22 38
26	6 5 3	7 30	1 46	12 42	1 30	13 56	3 7	24 34	24 34
E	7 3 19	20 40	0 36	12 41	1 34	14 36	4 19	26 32	26 32
28	8 1 33	3 36	0 n 34	12 41	1 38	15 17	5 32	28 32	28 32
29	8 59 46	16 21	1 41	12 40	1 42	15 57	6 45	0 8 33	0 8 33
30	9 57 57	28 54	2 42	12 40	1 45	16 38	7 58	2 35	2 35
Days	☿'s rises	♂'s rises	♀'s sets	♂'s rises	h's declin.	☿'s declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	3 m 12	3 m 11	8 a 27	5 m 2	22 s 14	20 s 37	21 s 43	12 n 4	8 s 1
7	2 53	3 1	8 49	4 55	22 13	20 29	21 6	14 45	5 15
13	2 32	2 51	9 10	4 48	22 13	20 20	20 11	17 12	1 42
19	2 12	2 40	9 31	4 42	22 12	20 13	19 17	19 24	2 n 30
25	1 51	2 29	9 49	4 34	22 12	20 8	18 18	21 18	7 12

The LUNATIONS.

New Moon the 1st day at 16 minutes past 11 morning,
 First quarter the 9th day at 54 minutes past 2 afternoon,
 Full Moon the 16th day at 31 minutes past 5 afternoon,
 Last quarter the 23d day at 40 minutes past 7 morning,
 New Moon the 31st day at 4 minutes past 2 morning.

M	Sun-days & other D remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock aft. ☉
1	St. Phil. & James	4 37	7 23	15 n 8	18 n 38	☾ sets	11 m 56	3 8
2		4 35	7 25	15 26	22 40	9 a 15	0 a 43	3 15
3	Inv. of the Cross	4 33	7 27	15 43	25 58	10 28	1 31	3 22
4	2 Sun. aft. Easter	4 31	7 29	16 1	27 55	11 32	2 22	3 28
5		4 30	7 30	16 18	28 35	morn	3 14	3 34
6	St. John a. p. Lat.	4 28	7 32	16 35	27 55	0 24	4 6	3 39
7	Easter T. begins	4 26	7 34	16 52	25 58	1 1	4 56	3 44
8		4 25	7 35	17 8	22 52	1 30	5 44	3 48
9		4 23	7 37	17 24	18 45	1 50	6 30	3 51
10		4 22	7 38	17 40	13 46	2 5	7 14	3 54
11	3 Sun. aft. Easter	4 20	7 40	17 55	8 5	2 18	7 59	3 56
12		4 18	7 42	18 11	1 54	2 30	8 43	3 58
13		4 17	7 43	18 26	4 s 34	2 41	9 29	4 0
14		4 15	7 45	18 40	11 3	2 53	10 19	4 0
15		4 14	7 46	18 54	17 9	3 7	11 13	4 0
16		4 12	7 48	19 8	22 24	☾ rises	morn	4 0
17		4 11	7 49	19 22	26 16	9 a 53	0 12	3 59
18	4 Sun. aft. Easter	4 9	7 51	19 35	28 18	11 11	1 17	3 58
19	Q. Char. born	Dunf.	7 52	19 48	28 13	morn	2 23	3 55
20		4 7	7 53	20 1	26 6	0 8	3 29	3 53
21		4 5	7 55	20 13	22 20	0 43	4 29	3 50
22	Prs. Eliz. born	4 4	7 56	20 25	17 21	1 8	5 26	3 46
23		4 3	7 57	20 37	11 37	1 25	6 17	3 41
24		4 1	7 59	20 48	5 30	1 37	7 3	3 36
25	Rogat. Sunday	4 0	8 0	20 59	0 n 41	1 40	7 45	3 31
26	Augustin	3 59	8 1	21 10	6 43	2 0	8 29	3 25
27	Venerable Bede	3 58	8 2	21 20	12 23	2 12	9 11	3 18
28		3 57	8 3	21 30	17 29	2 24	9 55	3 11
29	Ascension	K. Ch. II. rest.	21 39	21 49	2 38	10 39	3 4	
30		3 55	8 5	21 48	25 12	2 57	11 28	2 56
31		3 54	8 6	21 57	27 27	☾ sets	0 a 17	2 48
Day	Length of day	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♀	Helioc. long. ♂	h rises
1	7 5 14 49	7 35	20 34	3 12	10 m 56	20 26 49	15 v 25	0 m 22
4	7 25 15 9	7 46	21 1	6 43	16 44	0 n 34	19 8 53	11 a 58
13	7 43 15 27	7 56	21 41	10 16	22 32	10 19	27 29	11 35
18	8 1 15 45	8 7	22 12	13 50	28 18	20 4	3 n 35	11 11
25	8 16 16 0	8 18	22 43	17 27	4 1	4 29	4 m 39	10 45

1783.

May.

17

Day	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. C's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	2 6	9 57	2 37	25 29	0 n 39	0 s 17	1 s 39	1 n 1	0 s 54
7	1 44	10 19	2 48	25 20	0 39	0 18	1 49	1 35	1 n 7
13	1 19	10 45	3 5	25 1	0 39	0 19	1 59	1 28	1 8
19	0 48	11 20	3 32	24 42	0 38	0 20	2 9	1 40	1 53
25	0	All day-light		24 23	0 38	0 22	2 19	1 50	2 12

Day	☉'s longitude	☌'s long.	☽'s latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.
1	8 10 56	7 11 8	17 3 n 35	12 39	1 49	17 48	9 10	4 39
2	11 54	15 23	31 4 17	12 38	1 53	17 58	10 33	6 45
3	12 52	21 5	37 4 46	12 37	1 57	18 39	11 35	8 52
E	13 50	25 17	35 5 3	12 36	2 0	19 19	12 44	11 0
5	14 48	28 29	29 5 7	12 34	2 3	19 59	14 0	13 9
6	15 46	29 11	21 4 57	12 33	2 6	20 39	15 13	15 19
7	16 44	28 23	13 4 34	12 31	2 8	21 19	16 25	17 29
8	17 42	25 5	11 4 0	12 29	2 11	21 59	17 37	19 40
9	18 40	20 17	18 3 14	12 28	2 13	22 39	18 49	21 51
10	19 38	13 29	4 2 18	12 26	2 16	23 19	20 1	24 1
E	20 36	4 12	20 1 15	12 25	2 18	23 58	21 13	26 11
12	21 33	54 15	25 0 5	12 23	2 19	24 38	22 25	28 20
13	22 31	42 8	56 1 s 7	12 21	2 20	25 18	23 37	30 29
14	23 29	28 22	56 2 17	12 19	2 21	25 57	24 49	32 36
15	24 27	13 7	23 3 21	12 17	2 22	26 37	26 1	34 41
16	25 24	56 22	12 4 13	12 14	2 22	27 16	27 13	36 44
17	26 22	38 7	15 4 48	12 12	2 23	27 56	28 24	38 45
E	27 20	19 22	23 5 3	12 10	2 23	28 35	29 36	40 44
19	28 17	59 7	25 4 58	12 7	2 24	29 14	30 47	42 42
20	29 15	37 22	13 4 32	12 4	2 24	29 54	31 59	44 37
21	II 0	13 14	40 3 49	12 2	2 R 24	0 X 33	3 10	46 29
22	1 10	51 20	44 2 54	11 59	2 24	1 12	4 21	48 18
23	2 8	27 4	24 1 50	11 56	2 23	1 52	5 32	50 4
24	3 6	2 17	42 0 41	11 53	2 23	2 31	6 44	51 47
E	4 3	36 0	40 0 n 28	11 50	2 22	3 10	7 55	53 28
26	5 1	9 13	22 1 34	11 47	2 22	3 50	9 6	55 6
27	5 58	42 25	51 2 34	11 44	2 21	4 28	10 17	56 41
28	6 56	14 8	9 3 26	11 41	2 20	5 7	11 28	58 12
29	7 53	45 20	19 4 8	11 37	2 19	5 45	12 39	60 40
30	8 51	16 2	23 4 38	11 34	2 18	6 23	13 49	62 6
31	9 48	46 14	21 4 56	11 31	2 17	7 1	15 0	64 29

Day	u's rises	δ's rises	♀'s sets	♂'s rises	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	1 m 29	2 m 15	10 a 6	4 m 30	22 s 13	20 s 3	17 s 14	22 n 51	12 n 14
7	1 8	2 2	10 22	sets	22 14	20 c	16 8	24 1	17 11
13	0 45	1 49	10 34	8 a 37	22 15	19 58	14 58	24 47	21 23
19	0 21	1 33	10 43	9 25	22 16	19 58	13 45	25 8	24 19
25	11 a 55	1 18	10 52	9 56	22 18	20 c	12 31	25 42	25 31

The LUNATIONS.

First quarter the 8th day at 59 minutes past 4 morning,
 Full Moon the 14th day at 27 minutes past midnight,
 Last quarter the 21st day at 51 minutes past 4 afternoon,
 New Moon the 29th day at 5 evening.

M	Sundays & other	☉	☉	☉'s	☉'s	☾ rises	☾	Clock
D	remarks days	rises	sets	declin.	declin.	& sets	South	aft. ☉
1	St. John Baptist	Nicom.	8 7	22 n 5	28 n 25	10 a 17	1 a 8	2 39
2	Easter T. end	3 52	8 8	22 13	28 4	10 59	2 0	2 30
3	St. John Baptist	3 51	8 9	22 21	26 26	11 30	2 50	2 20
4	K. Geo. III. born	3 50	8 10	22 28	23 38	11 52	3 38	2 10
5	Fr. Ern. Aug. bo.	Ox. T. ends. Bon.	22 35	19 48	morn.	4 24	2 0	
6		3 49	8 11	22 41	15 6	0 9	5 8	1 49
7		3 48	8 12	22 47	9 44	0 23	5 51	1 38
8	Whit-Sunday	3 47	8 13	22 53	3 51	0 34	6 33	1 27
9	Whit-Monday	3 47	8 13	22 58	2 22	0 43	7 17	1 16
10	Whit-Tuesday	Prs. Amelia bor.	23 3	8 41	0 54	8 3	1 5	
11	Ember Week	St. Barnabas	23 7	14 49	1 7	8 54	0 53	
12		3 45	8 15	23 11	20 21	1 23	9 49	0 41
13		3 45	8 15	23 15	24 48	1 45	10 50	0 29
14		3 44	8 16	23 18	27 38	2 19	11 57	0 16
15	Trinity Sunday	3 44	8 16	23 20	28 25	☾ rises morn.	0 4	
16		3 44	8 16	23 23	17 2	10 a 34	1 4	bef. 8
17	St. Alban	3 43	8 17	23 25	23 42	11 4	2 10	0 21
18	Oxford T. beg.	3 43	8 17	23 26	18 54	11 24	3 10	0 34
19	Corpus Christi.	3 43	8 17	23 27	13 10	11 39	4 4	0 47
20	Trin. Term beg.	Tr. Edw. K. WS.	23 28	6 58	11 51	4 52	1 0	
21	Longest day	3 43	8 17	23 28	0 38	morn	5 39	1 13
22	St. Sen. aft. Trin.	3 43	8 17	23 28	5 n 32	0 2	6 23	1 26
23		3 43	8 17	23 27	11 19	0 12	7 5	1 39
24	St. John Bapt.	3 43	8 17	23 27	16 32	0 23	7 48	1 51
25		3 43	8 17	23 25	21 1	0 38	8 33	2 4
26		3 44	8 16	23 23	24 35	0 57	9 20	2 17
27		3 44	8 16	23 21	27 3	1 21	10 9	2 30
28		3 44	8 16	23 18	28 18	1 56	10 59	2 42
29	St. Sun. aft. Trin.	St. Peter.	16 23	15 28	14	☾ sets	11 50	2 54
30		3 45	8 15	23 12	26 52	9 a 28	0 a 42	3 6
Days	Day increaf.	Length of day	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♂	Helioc. long. ♀	Helioc. long. ♀	h rises
1	8 30	16 14	8 31	23 24	21 42	10 46	11 12	4 9
7	8 40	16 24	8 40	23 55	25 22	16 31	20 57	25 8
13	8 44	16 28	8 52	24 25	29 42	22 14	0 40	13 m 36
19	8 50	16 34	9 3	24 56	2 47	27 58	10 22	0 41
25	odec. 2 16	32	9 14	25 27	6 30	3 41	20 3	17 11

1783.

June.

19

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. $\odot$'s node	h 's latitude	μ 's latitude	δ 's latitude	η 's latitude	θ 's latitude
1				24 $\times$ 1	0 n 38	0 s 23	2 s 32	1 n 58	1 n 59
7				23 42	0 38	0 24	2 42	2 1	1 18
13	All	day-	light.	23 23	0 37	0 25	2 53	2 2	0 10
19				23 4	0 37	0 26	3 5	1 59	1 s 18
25				22 45	0 37	0 28	3 17	1 52	2 55
Days	$\odot$'s longitude	$\odot$'s long.	$\odot$'s latitude	h 's long.	μ 's long.	δ 's long.	η 's long.	θ 's long.	
E 11	10 46 13	26 11 16	5 n 0	11 μ 28	2 μ 16	7 $\times$ 39	16 μ 11	3 μ 48	
2	11 43 41	8 μ 8	4 52	11 25	2 14	8 17	17 22	5 4	
3	12 41 7	19 59	4 31	11 21	2 12	8 54	18 32	6 18	
4	13 38 32	1 Ω 52	3 58	11 17	2 9	9 32	19 43	7 28	
5	14 35 56	13 50	3 14	11 13	2 6	10 10	20 53	8 34	
6	15 33 18	25 57	2 22	11 9	2 3	10 47	22 4	9 36	
7	16 30 39	8 μ 17	1 21	11 5	2 2	11 25	23 14	10 35	
E 17	28 0	20 54	0 15	11 2	1 56	12 24	25 11	30	
9	18 25 20	3 μ 54	0 s 53	10 58	1 53	12 39	25 35	12 22	
10	19 22 39	17 21	2 10	54	1 49	13 16	26 45	13 11	
11	20 19 56	1 μ 17	3 4	10 50	1 46	13 53	27 55	13 56	
12	21 17 13	15 42	3 58	10 46	1 42	14 30	29 5	14 36	
13	22 14 29	0 μ 34	4 37	10 42	1 38	15 7	0 Ω 14	15 12	
14	23 11 44	15 44	4 58	10 38	1 33	15 43	1 24	15 44	
E 24	8 59	1 μ 4	4 57	10 34	1 29	16 19	2 33	16 12	
16	25 6 13	16 21	4 36	10 30	1 24	16 55	3 43	16 35	
17	26 3 27	1 μ 24	3 56	10 25	1 20	17 31	4 52	16 54	
18	27 0 40	16 5	3 0	10 21	1 15	18 7	6 1	17 8	
19	27 57 54	0 $\times$ 20	1 55	10 17	1 10	18 43	7 10	17 19	
20	28 55 7	14 6	0 45	10 13	1 4	19 18	8 19	17 23	
21	29 52 21	27 26	0 n 25	10 8	0 59	19 53	9 28	17 $\times$ 24	
E 26	0 49 34	10 γ 22	1 32	10 4	0 53	20 28	10 37	17 22	
23	1 46 48	22 59	2 33	10 0	0 48	21 2	11 46	17 15	
24	2 44 1	5 $\times$ 20	3 25	9 55	0 42	21 37	12 54	17 2	
25	3 41 15	17 30	4 7	9 51	0 36	22 11	14 3	16 44	
26	4 38 29	29 31	4 37	9 47	0 30	22 45	15 11	16 23	
27	5 35 43	11 Π 28	4 55	9 43	0 23	23 19	16 20	15 39	
28	6 32 56	23 22	5 0	9 38	0 17	23 53	17 28	15 32	
E 7	30 10	5 μ 14	4 52	9 34	0 11	24 26	18 36	15 1	
30	8 27 24	17 6	4 31	9 30	0 4	25 0	19 44	14 28	
Days	μ 's rises	δ 's rises	η 's sets	θ 's sets	h 's declin.	μ 's declin.	δ 's declin.	η 's declin.	θ 's declin.
1	11 a 27	0 m 58	10 a 59	10 a 11	22 s 20	20 s 4	11 s 3	24 n 26	25 n 24
7	11 1	0 41	10 56	10 8	22 23	20 9	9 47	23 28	24 20
13	10 36	0 24	10 51	9 58	22 25	20 15	8 32	22 7	22 46
19	10 10	0 7	10 45	9 21	22 27	20 22	7 18	20 25	21 3
25	9 44	11 a 46	10 35	8 42	22 29	20 30	6 7	18 25	19 32

The LUNATIONS.

First quarter the 7th day at 52 minutes past 3 afternoon,

Full Moon the 14th day at 56 minutes past 6 morning,

Last quarter the 21st day at 36 minutes past 4 morning,

New Moon the 29th day at 55 minutes past 7 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☉'s declin.	☾ rises & sets	☾ South	Clock bef. ☉	
1	Cam. Comm.	3 45	8 15	23 n 8	24 n 17	9 a 51	1 a 29	3 18	
2	Visit. B. V. M.	3 46	8 14	23 4	20 38	10 9	2 17	3 30	
3	Dog days begin	3 46	8 14	22 59	16 8	10 23	3 1	3 41	
4	Camb. T. ends	Transf. St. Mart.	22 54	10 55	10 35	3 44	3 52		
5		3 48	8 12	22 49	5 17	10 46	4 26	4 3	
6	Sun. aft. Trin.	3 48	8 12	22 43	0 49	10 55	5 8	4 13	
7	Tho. & Becket	3 49	8 11	22 37	6 58	11 7	5 51	4 23	
8		3 50	8 10	22 30	13 0	11 21	6 37	4 33	
9	Trin. Term ends	3 51	8 9	22 23	18 36	11 39	7 29	4 42	
10		3 51	8 9	22 16	23 21	morn.	8 26	4 50	
11		3 52	8 8	22 8	26 46	0 6	9 29	4 59	
12	Oxford Act	3 53	8 7	22 0	28 24	0 47	10 36	5 6	
13	Sun. aft. Trin.	3 54	8 6	21 51	27 54	1 49	11 43	5 14	
14		3 55	8 5	21 42	25 19	☾ rises	morn.	5 21	
15	Swithun	3 56	8 4	21 33	20 57	9 a 21	0 47	5 27	
16		3 58	8 2	21 23	15 22	9 38	1 46	5 33	
17		3 59	8 1	21 13	9 5	9 52	2 39	5 38	
18		4 0	8 0	21 3	2 33	10 4	3 28	5 43	
19	Oxf. Term ends	4 1	7 59	20 52	3 n 53	10 14	4 13	5 48	
20	Sun. aft. Trin.	Margaret	58 20	41 9	56 10	26 4	57 5	51	
21		4 3	7 57	20 29	15 25	10 40	5 41	5 55	
22	Mary Magd.	4 5	7 55	20 18	20 9	10 57	6 26	5 57	
23		4 6	7 54	20 6	23 58	11 19	7 12	6 0	
24		4 7	7 53	19 53	26 42	11 51	8 1	6 1	
25	St. James	4 9	7 51	19 40	28 13	morn.	8 52	6 2	
26	St. Anne, M. V.	M. 10	7 50	19 27	28 27	0 36	9 43	6 3	
27	6 Sun. aft. Trin.	4 12	7 48	19 14	27 21	1 32	10 34	6 3	
28		4 13	7 47	19 0	25 1	2 37	11 24	6 2	
29		4 15	7 45	18 46	21 34	☾ sets	0 a 11	6 1	
30		4 16	7 44	18 31	17 11	8 a 29	0 57	5 59	
31		4 18	7 42	18 17	12 4	8 40	1 40	5 57	
Day	Day decreaf.	Length of day	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♀	Helioc. long. ♂	h sets
1	0 6	16 28	9 15	25 58	10 16	9 15	29 43	3 54	sets
7	0 14	16 20	9 35	26 29	14 3	8 9	20 21	35	3 m 32
13	0 24	16 10	9 46	26 59	17 50	20 51	18 55	11 36	7 3 4
19	0 36	15 58	9 57	27 30	21 37	26 35	28 30	3 36	2 37
25	0 54	15 40	10 8	28 12	25 2	2 18	8 2	0 19	2 12

1783.

July.

21

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. & s node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1				22 X 25	0 n 35	0 s 29	3 s 28	1 n 42	4 s 16
7	All	day-	light	22 6	0 35	0 30	3 40	1 27	4 51
13				21 47	0 35	0 31	3 51	1 9	4 30
19				21 28	0 34	0 32	4 2	0 47	3 26
25	0 45	11 7	3 20	21 9	0 34	0 33	4 13	0 21	1 59
Days	☉'s longitude	☌'s long.	☌'s latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.	
1	10 9 24 38	28 59	3 n 59	9 25	29 57	25 X 33	20 52	13 54	
2	10 21 51	10 56	3 15	9 20	29 50	26 6	21 59	13 19	
3	11 19 4	22 59	2 23	9 16	29 43	26 38	23 7	12 42	
4	12 16 17	5 10	1 23	9 11	29 36	27 11	24 14	12 2	
5	13 13 30	17 32	0 18	9 7	29 29	27 43	25 22	11 24	
E	14 10 43	0 11	0 s 49	9 2	29 22	28 14	26 29	10 48	
7	15 7 56	13 9	1 55	8 58	29 14	28 45	27 36	10 15	
8	16 5 8	26 31	2 58	8 54	29 7	29 15	28 43	9 45	
9	17 2 21	10 19	3 52	8 49	29 0	29 46	29 49	8 16	
10	17 59 33	24 35	4 33	8 45	28 52	0 16	0 55	8 49	
11	18 56 45	9 17	4 58	8 40	28 45	0 46	2 2	8 27	
12	19 53 56	24 19	5 4	8 36	28 37	1 15	3 8	8 10	
E	20 51 9	9 33	4 48	8 32	28 30	1 45	4 14	7 58	
14	21 48 22	24 49	4 11	8 28	28 22	2 14	5 19	7 51	
15	22 45 36	9 46	3 18	8 24	28 14	2 42	6 28	7 49	
16	23 42 50	24 43	2 12	8 19	28 7	3 10	7 31	7 32	
17	24 40 4	9 X 6	0 59	8 15	27 59	3 38	8 36	8 0	
18	25 37 19	22 59	0 n 16	8 11	27 51	4 5	9 41	8 15	
19	26 34 35	6 25	1 27	8 7	27 44	4 33	10 46	8 36	
E	27 31 52	19 25	2 31	8 3	27 36	5 0	11 50	9 2	
21	28 29 9	2 8 3	3 26	7 59	27 28	5 26	12 55	9 34	
22	29 26 27	14 24	4 10	7 55	27 21	5 51	13 59	10 11	
23	Ω 0 23 47	26 31	4 42	7 51	27 13	6 17	15 4	10 55	
24	1 21 8	8 11 30	5 1	7 48	27 5	6 42	16 8	11 45	
25	2 18 30	20 23	5 7	7 44	26 57	7 6	17 12	12 39	
26	3 15 52	2 15	5 0	7 40	26 49	7 30	18 15	13 39	
E	4 13 16	14 7	4 40	7 36	26 41	7 53	19 18	14 44	
28	5 10 41	26 2	4 7	7 33	26 34	8 16	20 20	15 54	
29	6 8 7	8 1	3 24	7 29	26 26	8 38	21 23	17 10	
30	7 5 33	20 6	2 31	7 25	26 19	9 0	22 25	18 32	
31	8 3 0	2 18	1 30	7 21	26 11	9 22	23 27	20 1	
Days	☌ rises	♂ rises	♀ sets	♂ sets	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	9 a 17	11 a 29	10 a 22	7 a 58	22 s 32	20 s 40	4 s 57	16 n 10	18 n 29
7	8 51	11 11	10 10	rises	22 34	20 50	3 51	13 41	18 14
13	8 25	10 51	9 46	3 m 20	22 37	20 59	2 50	11 2	18 44
19	7 58	10 32	9 41	2 52	22 39	21 9	1 53	8 15	19 46
25	sets	10 14	9 25	2 43	22 41	21 10	1 3	5 22	20 53

The LUNATIONS.

First quarter the 5th day at 6 minutes past midnight,
 Full Moon the 12th day at 17 minutes past 2 afternoon,
 Last quarter the 19th day at 19 minutes past 7 at night,
 New Moon the 27th day at 33 minutes past 10 at night,

M	Sundays & other	☉	☉	☉'s	☉'s	☾ rises	☾	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	South	bef. ☉
1	Lammes	4 19	7 41	18 n 2	6 n 25	8 a 51	2 a 22	5 54
2		4 21	7 39	17 46	0 26	9 1	3 5	5 50
3	7 Sun. aft. Trin.	4 22	7 38	17 31	5 s 40	9 13	3 47	5 46
4		4 24	7 36	17 15	11 40	9 26	4 33	5 41
5		4 26	7 34	16 50	17 17	9 41	5 21	5 35
6	Transfiguration	4 27	7 33	16 42	22 11	10 3	6 15	5 29
7	Name of Jesus	4 29	7 31	16 26	25 57	10 38	7 14	5 22
8		4 30	7 29	16 9	28 10	11 29	8 17	5 13
9		4 32	7 28	15 51	28 27	morn.	9 23	5 7
10	8 Sun. aft. Trin.	St. Laurence.	26	15 34	26 42	0 42	10 28	4 59
11	Pr. Brunfw. bo.	Dog-days end		15 16	23 3	2 13	11 29	4 50
12	Pr. Wales born	O. Lammes day		14 58	17 54	☾ rises	morn.	4 40
13		4 39	7 21	14 40	11 47	7 a 58	0 25	4 30
14		4 41	7 19	14 22	5 10	8 11	1 16	4 19
15		4 43	7 17	14 3	1 n 30	8 23	2 4	4 7
16	Pr. Fred. born	4 44	7 16	13 44	7 54	8 34	2 51	3 56
17	9 Sun. aft. Trin.	4 46	7 14	13 25	13 46	8 48	3 37	3 43
18		4 48	7 12	13 6	18 53	9 3	4 22	3 30
19		4 50	7 10	12 46	23 4	9 24	5 6	3 17
20		4 52	7 8	12 26	26 10	9 52	5 58	3 3
21	Pr. Wm. Hen. 5.	4 54	7 6	12 7	28 3	10 30	6 49	2 49
22		4 55	7 5	11 46	28 38	11 25	7 40	2 34
23		4 57	7 3	11 26	27 53	morn.	8 32	2 19
24	10 S. aft. Trin.	St. Bartholome		11 6	25 52	0 30	9 23	2 4
25		5 1	6 59	10 45	22 41	1 40	10 11	1 48
26		5 3	6 57	10 24	18 30	2 55	10 58	1 32
27		5 5	6 55	10 3	13 30	☾ sets	11 42	1 15
28	St. Augustine	5 7	6 53	9 42	7 54	7 a 5	0 a 26	0 58
29	Behead. J. Bap.	5 9	6 51	9 21	1 54	7 16	1 8	0 40
30		5 10	6 50	8 59	4 s 17	7 26	1 51	0 23
31	11 S. aft. Trin.	5 12	6 48	8 37	10 23	7 38	2 37	cast. 4
Day	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.
	decreas.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ☿
1	1 14	15 20	10 17 21	28 17 37	29 52	9 0	19 1	8 8 5
7	1 31	15 3	10 31	29 8	3 41	14 45	28 50	15 11 6
13	1 51	14 43	10 42	29 39	7 29	20 31	8 17 9	22 26 14
19	2 13	14 21	10 53	0 10	11 17	26 17	17 38	25 5 7
25	2 35	13 50	11 4	0 41	15 5	2 52	5 27	22 27 26

1783.

August.

23

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. $\odot$'s node	h 's latitude	μ 's latitude	δ 's latitude	ϕ 's latitude	ψ 's latitude
1	1 23	10 34	2 58	20 $\times$ 47	0 n 33	0 s 33	4 s 26	0 s 15	0 s 17
7	1 47	10 13	2 46	20 28	0 32	0 34	4 35	0 49	0 n 53
13	2 9	9 51	2 34	20 9	0 31	0 35	4 44	1 26	1 34
19	2 29	9 30	2 25	19 50	0 31	0 35	4 51	2 7	1 46
25	2 47	9 13	2 18	19 31	0 30	0 35	4 57	2 50	1 34
Days	$\odot$'s longitude	$\odot$'s long.	$\odot$'s latitude	h 's long.	μ 's long.	δ 's long.	ϕ 's long.	ψ 's long.	
1	Ω 9 0 28	14 m 40	0 n 24	7 μ 18	26 μ 4	9 ν 43	24 m 29	21 ω 32	
2	9 57 56	27 13	0 s 44	7 15	25 57	10 4	25 30	23 6	
E	10 55 25	10 ω 0	1 51	7 12	25 50	10 24	26 31	24 45	
4	11 52 55	23 4	2 54	7 8	25 42	10 43	27 33	26 29	
5	12 50 26	6 m 27	3 49	7 5	25 35	11 1	28 34	28 16	
6	13 47 58	20 1	4 33	7 2	25 28	11 18	29 34	0 Ω 6	
7	14 45 30	4 μ 16	5 1	6 59	25 21	11 35	0 ω 34	1 59	
8	15 43 3	18 42	5 12	6 56	25 14	11 51	1 33	3 54	
9	16 40 36	3 μ 26	5 2	6 53	25 8	12 7	2 31	5 51	
E	17 38 11	18 21	4 32	6 50	25 1	12 22	3 30	7 50	
11	18 35 47	3 m 20	3 44	6 48	24 55	12 37	4 28	9 50	
12	19 33 24	18 15	2 40	6 45	24 48	12 51	5 26	11 51	
13	20 31 2	2 $\times$ 55	1 26	6 42	24 42	13 4	6 24	13 53	
14	21 28 41	17 16	0 9	6 40	24 36	13 17	7 21	15 55	
15	22 26 22	1 ν 11	1 n 7	6 38	24 29	13 29	8 17	17 57	
16	23 24 4	14 41	2 17	6 35	24 23	13 40	9 14	19 59	
E	24 21 48	27 46	3 18	6 33	24 17	13 50	10 10	21 59	
18	25 19 33	10 δ 28	4 7	6 31	24 12	13 59	11 5	24 0	
19	26 17 20	22 52	4 43	6 29	24 7	14 7	12 1	26 0	
20	27 15 9	5 Π 0	5 6	6 27	24 1	14 14	12 56	27 59	
21	28 13 0	16 59	5 15	6 25	23 56	14 21	13 50	29 57	
22	29 10 53	28 52	5 10	6 23	23 51	14 27	14 43	1 m 53	
23	m 0 8 48	10 ω 43	4 52	6 21	23 46	14 33	15 36	3 48	
E	1 6 44	22 37	4 22	6 20	23 41	14 38	16 28	5 42	
25	2 4 42	4 Ω 36	3 40	6 18	23 37	14 42	17 19	7 36	
26	3 2 42	16 43	2 47	6 16	23 31	14 45	18 10	9 28	
27	4 0 43	28 59	1 47	6 15	23 28	14 47	19 0	11 19	
28	4 58 46	11 m 26	0 40	6 13	23 24	14 48	19 49	13 8	
29	5 56 51	24 5	0 s 30	6 12	23 20	14 48	20 38	14 56	
30	6 54 57	6 ω 56	1 40	6 11	23 16	14 R 47	21 26	16 43	
31	7 53 5	20 1	2 45	6 10	23 11	14 46	22 13	18 29	
Days	μ 's sets	δ 's rises	ϕ 's sets	ψ 's rises	h 's declin.	μ 's declin.	δ 's declin.	ϕ 's declin.	ψ 's declin.
1	3 m 11	9 a 51	9 a 7	2 m 44	22 s 43	21 s 29	0 s 13	1 n 58	21 n 28
7	2 44	9 31	8 50	3 9	22 45	21 39	0 n 22	0 s 58	20 36
13	2 18	9 13	8 33	3 50	22 46	21 47	0 48	3 52	18 11
19	1 52	8 53	8 16	sets	22 48	21 53	1 6	6 42	14 32
25	1 28	8 33	7 58	7 a 19	22 49	21 59	1 14	9 25	10 11

The LUNATIONS.

First quarter the 4th day at 37 minutes past 6 morning,

Full Moon the 10th day at 36 minutes past 11 at night,

Last quarter the 18th day at 54 minutes past noon,

New Moon the 26th day at 26 minutes past noon.

M D	Sundays & other remarks days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock aft. ☉	
1	Giles	5 14	6 46	8 n 16	16 s 8	7 a 53	3 a 24	0 14	
2	Cond. bur. 1663	5 16	6 44	7 54	21 12	8 14	4 16	0 33	
3		5 18	6 42	7 32	25 13	8 42	5 13	0 52	
4		5 20	6 40	7 10	27 49	9 27	6 13	1 11	
5		5 22	6 38	6 47	28 40	10 31	7 17	1 30	
6		5 24	6 36	6 25	27 35	11 52	8 21	1 50	
7	12 S. aft. Trin.	Enurch.	6 34	6 24	24 38	morn.	9 21	2 10	
8	Nativ. B.V. M.	5 28	6 32	5 40	20 7	1 24	10 18	2 31	
9		5 30	6 30	5 17	14 25	2 58	11 11	2 51	
10		5 32	6 28	4 54	8 0	4 29	morn.	3 12	
11		5 34	6 26	4 32	1 18	☾ rises	0 0	3 32	
12		5 36	6 24	4 9	5 n 19	6 a 49	0 47	3 53	
13		5 37	6 23	3 46	11 31	7 2	1 34	4 14	
14	13 S. aft. Trin.	Holy Cross	21 3	23 17	4 7	16 2	20 4	35	
15		5 41	6 19	3 0	21 42	7 35	3 9	4 56	
16		5 43	6 17	2 36	25 15	7 58	3 58	5 17	
17	Ember Week	Lamb.	6 15	2 13	27 36	8 36	4 48	5 38	
18		5 47	6 13	1 50	28 37	9 21	5 40	6 59	
19		5 49	6 11	1 26	28 13	10 22	6 32	6 20	
20		5 51	6 9	1 3	26 41	11 33	7 23	6 41	
21	14 S. aft. Trin.	St. Matthew	7 0	39 23	52 morn.	8 13	7 2		
22	St. Geo. III. cro.	5 55	6 5	0 16	20 1	0 47	9 1	7 23	
23		5 57	6 3	0 8	7 15	15 2	9 47	7 44	
24	Equal d. and n.	5 59	6 1	0 31	9 48	3 20	10 30	8 4	
25		6 1	5 59	0 54	3 50	4 36	11 14	8 24	
26	St. Cyprian	6 3	5 57	1 17	2 s 24	☾ sets	11 57	8 44	
27		6 5	5 55	1 41	8 39	5 a 57	0 a 42	9 4	
28	15 S. aft. Trin.	6 7	5 53	2 4	14 38	6 11	1 29	9 24	
29	St. Michael	Pr. Ch. Aug. 5.	2 28	20 2	6 29	2 21	9 44		
30	St. Jerome	6 11	5 49	2 51	24 22	6 55	3 17	10 3	
☉	Day decreas.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	☾ sets
1	3	3 13	31 11	15 16	17 17	19 30	8 51	8 10	18 35
7	3	25 13	9 11	27 1	49 23	16 14	41 17	59 7	45 11
13	3	49 12	45 12	38 2	20 27	20 31	27 8	25 10	10 55
19	4	13 12	21 11	49 2	51 0	46 26	23 6	38 11	46 10
25	4	17 11	57 12	0 3	22 4	29 2	16 9	28 20	10 14

1783.

September.

25

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. & s node	h's latitude	l's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	3 7	8 5	2 11	19X 9	0 n 20	0 35	4 50	3 43	0 n 59
7	3 24	8 36	2 6	18 4	0 28	0 36	4 38	4 30	0 20
13	3 37	8 23	2 4	18 30	0 28	0 36	4 52	5 17	0 25
19	3 52	8 8	2 1	18 11	0 27	0 36	4 42	6 2	1 11
25	4 5	7 55	2 0	17 52	0 26	0 36	4 27	6 41	1 56

Days	☉'s longitude	☌'s long.	☌'s latitude	h's long.	l's long.	δ's long.	♀'s long.	♂'s long.
1	8 51 14	2m 20	3 43	6 23	23 10	14 44	23 10	23 14
2	9 49 25	16 53	4 30	6 8 23	7 14	41 23	46 21	56
3	10 47 37	0 41	5 2	6 8 23	4 14	37 24	31 23	40
4	11 45 50	14 42	5 16	6 7 23	1 14	32 25	15 25	20
5	12 44 5	28 56	5 12	6 7 22	59 14	26 25	58 26	39
6	13 42 21	13 20	4 48	6 7 22	56 14	19 26	40 28	38
E	14 40 39	27 51	4 6	6 6 22	53 14	11 27	20 02	15
8	15 38 58	12 24	3 8	6 6 22	51 14	3 27	59 1	51
9	16 37 19	26 53	1 58	6 D 6 22	49 13	54 28	37 3	26
10	17 35 42	11 14	0 41	6 6 22	48 13	44 29	14 5	0
11	18 34 6	25 20	0 n 37	6 6 22	46 13	34 29	50 6	33
12	19 32 32	9 7	1 51	6 6 22	45 13	23 0m 26	8	1
13	20 31 0	22 34	2 57	6 7 22	44 13	11 1	1 9	36
E	21 29 30	5 39	3 52	6 7 22	43 12	58 1	34 11	6
15	22 28 2	18 23	4 34	6 7 22	42 12	45 2	5 12	35
16	23 26 37	0 149	5 2	6 8 22	41 12	31 2	34 14	1
17	24 25 14	12 59	5 16	6 8 22	41 12	17 3	2 15	28
18	25 23 53	24 59	5 15	6 9 22	41 12	2 3	29 18	53
19	26 22 34	6 53	5 1	6 10 22	41 11	46 3	54 18	17
20	27 21 18	18 45	4 35	6 11 22	41 11	30 4	17 19	40
E	28 20 4	0 39	3 56	6 13 22	42 11	13 4	38 21	2
22	29 18 52	12 41	3 7	6 14 22	42 10	56 4	58 22	22
23	0 17 43	24 54	2 8	6 15 22	43 10	39 5	16 23	41
24	1 16 36	7 21	1 3	6 16 22	43 10	22 5	32 24	59
25	2 15 31	20 3	0 s 7	6 18 22	45 10	4 4	46 26	16
26	3 14 28	3 1	1 18	6 19 22	46 9	46 5	58 27	31
27	4 13 27	16 16	2 26	6 21 22	47 9	28 6	8 28	45
E	5 12 28	29 46	3 28	6 22 22	49 9	10 6	15 29	57
29	6 11 31	13 30	4 12	6 24 22	50 8	51 6	20 1m 7	7
30	7 10 36	27 24	4 54	6 26 22	52 8	32 6	24 2	15

Days	☌ sets	♂ rises	♀ sets.	♂ sets.	h's declin.	l's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	1 m 0	8 a 9	7 a 38	7 a 12	22 s 50	22 s 3	1 n 13	2 a 24	4 n 47
7	0 36	7 45	7 17	7 4	22 51	22 6	1 14	43 0	13
13	0 13	7 21	6 56	6 53	22 51	22 8	0 44	16 47	11
19	1 40	6 56	6 34	6 41	22 52	22 9	0 20	13 30	17
25	1 20	6 21	6 11	6 26	22 52	22 8	0 0	10 47	57

The LUNATIONS.

First quarter the 3d day at 39 minutes past noon,

Full Moon the 10th day at 26 minutes past 11 morning,

Last quarter the 18th day at 37 minutes past 8 morning,

New Moon the 26th day at 9 minutes past 1 morning.

M	Sundays & other remark. day	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock aft. ☉	
1	Remigius	6 1	5 47	3 s 14	27 s 20	7 a 35	4 a 17	10 22	
2		6 15	5 45	3 38	28 36	8 32	5 19	10 41	
3		6 17	5 45	4 1	27 59	9 47	6 22	10 59	
4		6 19	5 41	4 24	25 33	11 14	7 23	11 17	
5	16 S. aft. Trin.	6 21	5 36	4 48	21 33	morn.	8 21	11 35	
6	Faith	6 24	5 37	5 11	16 18	0 43	9 12	11 52	
7		6 25	5 35	5 34	10 15	2 12	10 1	12 9	
8		6 26	5 34	5 57	3 46	3 27	10 48	12 26	
9	St. Denys	6 28	5 32	6 19	2 n 48	5 1	11 34	12 42	
10	Ox. & Ca. T. beg	6 30	5 30	6 42	9 8	☾ rises	morn.	12 58	
11		6 32	5 28	7 5	14 57	5 a 30	0 20	13 14	
12	17 S. aft. Trin.	6 34	5 26	7 28	19 59	5 47	1 6	13 28	
13	Fr. K. Edward	6 36	5 24	7 50	24 0	6 9	1 55	13 43	
14		6 38	5 22	8 13	26 49	6 39	2 47	13 57	
15		6 40	5 20	8 35	28 19	7 22	3 38	14 10	
16		6 42	5 18	8 57	28 28	8 17	4 31	14 22	
17	Etheldred	6 44	5 16	9 19	27 17	9 22	5 23	14 34	
18	St. Luke	6 46	5 14	9 41	24 52	10 37	6 12	14 46	
19	18 S. aft. Trin.	6 48	5 12	10 3	21 23	11 52	7 0	14 57	
20		6 50	5 10	10 25	16 59	morn.	7 46	15 7	
21		6 52	5 8	10 46	11 49	1 27	8 30	15 16	
22		6 54	5 6	11 7	6 5	2 22	9 13	15 25	
23		6 55	5 5	11 29	0 s 3	3 38	9 56	15 33	
24		6 57	5 3	11 50	6 21	3 56	10 40	15 41	
25	K. G. III. Acces.	Crispin	5 1	12 10	12 32	4 16	11 27	15 47	
26	19 S. aft. Trin.	K. Geo. III. Pro	12 31	18 15	☾ sets	0 a 18	15 53		
27		7 3	4 57	12 51	23 4	5 a 4	1 13	15 58	
28	St. Simon & Jude	7 5	4 55	13 12	26 33	5 38	2 13	16 3	
29		7 7	4 53	13 32	28 19	6 30	3 17	16 7	
30		7 8	4 52	13 52	28 9	7 41	4 21	16 10	
31		7 10	4 50	14 11	26 6	9 5	5 23	16 12	
Days	Day decreas.	Length of day	Helioc. long. ♀	Helioc. long. ☿	Helioc. long. ♂	Helioc. long. ☾	Helioc. long. ♀	Helioc. long. ♂	h sets
1	4 49	11 35	12 10	3 53	8 11	8 10	25 41	15 36	9 a 53
7	5 23	11 11	12 21	4 24	11 51	14 5	5 13	4 24	9 32
13	5 47	10 47	12 32	4 56	15 30	20 14	47 25	46	9 12
19	6 9	10 25	12 43	5 27	19 7	25 59	24 21	20 57	8 51
25	6 33	10 1	12 54	5 58	22 42	1 58	38 56	21 6	8 30

1783.

October

27

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. (l's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	4 18	7 42	1 58	17X33	0 25	0 36	4 4	7 16	2 37
7	4 31	7 29	1 58	17 14	0 25	0 36	3 43	7 33	3 7
13	4 43	7 17	1 57	16 55	0 24	0 36	3 17	7 29	3 16
19	4 55	7 5	1 57	16 36	0 23	0 36	2 50	6 56	2 50
25	5 6	6 54	1 58	16 17	0 22	0 36	2 22	5 53	1 26
Days	☉'s longitude	☽'s long.	(l's latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.	
1	8 9 43	11 27	5 13	6 28	22 54	8 14	6 26	3 21	
2	9 8 51	25 35	5 13	6 30	22 57	7 56	6 24	4 25	
3	10 8 1	9 47	4 54	6 33	23 0	7 38	6 20	5 27	
4	11 7 13	23 58	4 17	6 35	23 4	7 20	6 14	6 26	
E	12 6 26	8 9	3 25	6 37	23 7	7 2	6 6	7 22	
6	13 5 41	22 16	2 20	6 40	23 11	6 45	5 55	8 16	
7	14 4 58	6 17	1 7	6 42	23 15	6 28	5 42	9 7	
8	15 4 17	20 10	0 9	6 45	23 18	6 11	5 27	9 54	
9	16 3 37	3 52	1 23	6 48	23 22	5 55	5 9	10 36	
10	17 3 0	17 20	2 31	6 51	23 26	5 30	4 49	11 14	
11	18 2 25	0 34	3 30	6 54	23 30	5 24	4 26	11 47	
E	19 1 52	13 31	4 16	6 57	23 34	5 9	4 1	12 15	
13	20 1 21	26 12	4 49	7 0	23 39	4 55	3 33	12 39	
14	21 0 52	8 36	5 7	7 3	23 43	4 41	3 4	12 57	
15	22 0 25	20 47	5 11	7 6	23 48	4 28	2 33	13 6	
16	23 0 0	2 47	5 2	7 10	23 53	4 16	2 1	13 8	
17	23 59 38	14 40	4 39	7 13	23 58	4 4	1 28	13 3	
18	24 59 19	26 31	4 4	7 16	24 4	3 53	0 54	12 50	
E	25 59 2	8 25	3 19	7 20	24 10	3 43	0 20	12 28	
20	26 58 47	20 27	2 25	7 23	24 16	3 34	29 45	11 57	
21	27 58 35	2 41	1 23	7 27	24 22	3 25	29 9	11 17	
22	28 58 25	15 13	0 16	7 31	24 28	3 17	28 33	10 28	
23	29 58 17	28 4	0 54	7 35	24 35	3 10	27 57	9 31	
24	m 0 58 11	11 18	2 2	7 39	24 41	3 3	27 20	8 29	
25	1 58 7	24 45	3 6	7 43	24 48	2 57	26 43	7 16	
E	2 58 6	8 51	3 59	7 48	24 55	2 52	26 6	6 2	
27	3 58 7	23 4	4 40	7 52	25 2	2 48	25 31	4 46	
28	4 58 9	7 28	5 3	7 56	25 9	2 45	24 58	3 27	
29	5 58 13	21 56	5 6	8 1	25 16	2 42	24 27	2 13	
30	6 58 18	6 23	4 51	8 5	25 24	2 40	23 58	1 4	
31	7 58 25	20 44	4 17	8 10	25 31	2 39	23 31	0 6	
Days	u's sets	♂'s sets	♀'s sets	♂'s sets	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	11 a 9	6 m 9	5 a 47	6 a 15	22 s 53	22 s 6	0 s 29	20 s 31	15 s 6
7	10 48	5 37	5 22	5 49	22 53	22 3	0 51	20 33	17 29
13	10 29	5 8	4 57	5 55	22 53	21 59	1 3	19 44	18 46
19	10 9	4 41	4 32	5 24	22 53	21 53	1 7	18 4	18 18
25	9 49	4 14	rises	5 1	22 53	21 47	1 0	15 47	15 19

The LUNATIONS.

First quarter the 1st day at 26 minutes past 7 at night,
 Full Moon the 9th day at 1 minute past 2 morning,
 Last quarter the 24th day at 1 minute past 5 morning,
 New Moon the 24th day at 40 minutes past noon.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin	☾'s declin.	☾ rises & sets	☾ South	Clock aft. ☉	
1	All Saints	7 12	4 48	14 30	22 25	10 a 36	6 a 20	16 14	
2	20 S. aft. Trin.	Ps. Ew. born		All Soul	17 29	morn.	7 12	16 14	
3	Prs. Sophia bor	7 16	4 44	15 3	11 42	0 4	8 1	16 14	
4		7 18	4 42	15 27	5 27	1 28	8 48	16 13	
5	Powder Plot	7 10	4 41	15 45	on 58	2 40	9 33	16 11	
6	Mich. Term beg.	Leonard	4 39	16 4	7 15	4 8	10 18	16 9	
7	D. Camb. born	7 23	4 37	16 21	13 8	5 27	11 4	16 6	
8	Prs. Aug. Sop. b.	7 24	4 36	16 39	18 21	6 47	11 51	16 1	
9	21 S. aft. Trin.	Ld. Mayor's day		16 56	22 40	D rises	morn.	15 56	
10		7 28	4 32	17 13	25 53	4 a 40	0 41	15 50	
11	St. Martin	7 29	4 31	17 30	27 49	5 19	1 31	15 44	
12		7 31	4 29	17 46	28 24	6 9	2 24	15 36	
13	Britius	7 33	4 27	18 2	27 37	7 11	3 15	15 28	
14		7 34	4 26	18 8	25 35	8 20	4 6	15 18	
15	Machutus	6 36	4 24	18 34	22 27	9 34	4 54	15 8	
16	22 S. aft. Trin.	7 37	4 23	18 49	18 22	10 48	5 39	14 57	
17	Hugh	7 39	4 21	19 4	13 32	morn.	6 23	14 45	
18		7 40	4 20	19 18	8 6	0 2	7 5	14 32	
19		7 42	4 18	19 32	2 13	1 16	7 47	14 19	
20	Edmund	7 43	4 17	19 46	3 54	2 30	8 20	14 4	
21		7 45	4 15	19 59	10 5	3 47	9 14	13 49	
22	Cecil. O. Mart. d.	7 46	4 14	20 12	15 59	5 11	10 2	13 33	
23	23 S. aft. Trin.	St. Clement	13	20 25	21 13	6 46	10 55	13 16	
24		7 49	4 11	20 37	25 19	D sets	11 54	12 58	
25	D. Glouc. born	7 50	4 10	20 40	27 47	4 a 15	0 a 57	12 40	
26		7 51	4 9	21 1	28 16	5 22	2 3	12 21	
27		7 52	4 8	21 12	26 42	6 43	3 7	12 1	
28	Mic. Term ends	7 54	4 6	21 22	23 19	8 14	4 8	11 40	
29		7 55	4 5	21 33	18 33	9 42	5 3	11 19	
30	Advent Sunday	St. Andrew	4	21 43	12 50	11 9	5 54	10 57	
☉ ☾	Day decreas.	Length of day	Helioc. long. h	Helioc. long. ll	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♀	h sets
1	6 59	9 35	13 1/2	6 35	26 51	8 59	15 8	2 11	36 8 a 4
7	7 21	9 13	13 17	7 6	0 8 23	15 0	24 46	10 26	15 7 42
13	7 39	8 55	13 28	7 37	3 52	21 2	4 11	25 14	52 7 20
19	7 58	8 36	13 39	8 9	7 15	27 6	14 5	14 17	0 6 58
25	8 14	8 20	13 50	8 40	10 44	2 11	10 23	46 8	5 6 36

1783.

November.

29

Day	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. (s node	h's latitude	u's latitude	s's latitude	q's latitude	g's latitude
1	5 17	6 43	1 59	15X55	0 n 22	0 s 35	1 s 53	4 s 15	0 n 53
7	5 25	6 35	2 2	15 36	0 21	0 35	1 29	2 44	2 6
13	5 34	6 26	2 3	15 17	0 21	0 36	1 7	1 19	2 20
19	5 41	6 19	2 5	14 57	0 20	0 36	0 48	0 5	1 59
25	5 48	6 12	2 7	14 38	0 10	0 36	0 32	0 n 57	1 22
Days	☉'s longitude.	☽'s long.	☾'s latitude	h's long.	u's long.	s's long.	q's long.	g's long.	
1	m 8 58 34	4 56	3 s 28	8 15	25 30	2 40	23 6	29 5	
E	9 58 44	18 57	2 27	8 19	25 45	2 41	22 43	28 20	
3	10 58 56	2 47	1 18	8 24	25 53	2 43	22 22	27 48	
4	11 59 9	16 25	0 5	8 29	26 12	2 46	22 27	27 28	
5	12 59 23	29 53	1 n 6	8 34	26 02	2 49	21 44	27 18	
6	13 59 39	13 9	2 13	8 39	26 18	2 53	21 28	27 20	
7	14 59 57	26 15	3 12	8 44	26 27	2 58	21 15	27 31	
8	16 0 16	9 8	4 0	8 49	26 35	3 3	21 5	27 53	
E	17 0 37	21 51	4 35	8 54	26 44	3 9	20 58	28 25	
10	18 0 59	4 22	4 56	9 0	26 53	3 16	20 51	29 6	
11	19 1 23	16 40	5 3	9 5	27 23	3 20	50 29	54	
12	20 1 49	28 47	4 56	9 10	27 12	3 31	20 49	om 48	
13	21 2 17	10 24	4 36	9 16	27 21	3 40	20 52	1 48	
14	22 2 47	22 37	4 4	9 21	27 31	3 50	20 57	2 53	
15	23 3 19	4 26	3 22	9 27	27 40	4 0	21 4	4 3	
E	24 3 53	16 18	2 31	9 32	27 50	4 11	21 13	5 17	
17	25 4 29	28 17	1 33	9 38	28 0	4 23	21 24	6 34	
18	26 5 7	10 28	0 19	9 44	28 10	4 35	21 38	7 54	
19	27 5 46	22 58	0 s 37	9 50	28 20	4 48	21 54	9 16	
20	28 6 27	5 51	1 43	9 56	28 30	5 1	22 12	10 40	
21	29 7 9	19 10	2 46	10 2	28 41	5 15	22 34	12 5	
22	30 7 53	21 57	3 42	10 8	28 51	5 30	22 54	13 32	
E	1 8 39	17 11	4 25	10 14	29 1	5 45	23 18	15 0	
24	2 9 27	1 47	4 52	10 20	29 12	5 1	23 43	16 26	
25	3 10 16	16 37	5 1	10 26	29 22	6 18	24 19	17 59	
26	4 11 6	1 34	4 49	10 32	29 33	6 35	24 39	19 29	
27	5 11 57	16 26	4 17	10 38	29 44	6 53	25 9	21 0	
28	6 12 49	1 8	3 29	10 44	29 55	7 11	25 41	22 32	
29	7 13 42	15 33	2 28	10 50	30 6	7 29	26 14	24 3	
E	8 14 36	29 39	1 19	10 56	30 18	7 48	26 49	25 36	
Days	u's sets	s's sets	q's rises	g's rises	h's declin.	u's declin.	s's declin.	q's declin.	g's declin.
1	9 a 27	3 m 47	5 m 58	6 m 16	22 s 51	21 s 37	0 s 40	12 s 56	10 s 19
7	9 8	3 27	5 18	5 36	22 49	21 28	0 11	10 50	8 39
13	8 49	3 8	4 47	5 31	22 48	21 18	0 n 26	9 22	9 56
19	8 30	2 52	4 21	5 50	22 46	21 6	1 11	8 37	12 47
25	8 11	2 36	4 6	6 10	22 44	20 53	2 1	8 30	15 57

30 December hath XXXI Days. White.

The LUNATIONS.

First quarter the 1st day at 7 minutes past 4 morning,
 Full Moon the 8th day at 2 minutes past 7 at night,
 Last quarter the 16th day at 15 minutes past midnight,
 New Moon the 23d day at 21 minutes past 11 at night,
 First quarter the 30th day at 29 minutes past 3 afternoon.

M	Sundays & other D remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock aft. ☉	
1		7 57	4 3	21 s 52	6 s 38	morn.	6 a 41	10 34	
2		7 58	4 2	22 1	0 15	0 32	7 25	10 11	
3		7 59	4 1	22 10	6 n 0	1 52	8 9	9 48	
4		8 0	4 0	22 18	11 53	3 9	8 53	9 23	
5		8 1	3 59	22 26	17 10	4 27	9 39	8 58	
6	Nicholas	8 2	3 58	22 33	21 39	5 44	10 27	8 33	
7	2 S. in Advent	8 2	3 58	22 40	25 6	7 1	11 17	8 7	
8	Concep.	8 3	3 57	22 46	27 21	☾ rises	morn.	7 41	
9		8 4	3 56	22 52	28 16	3 a 55	0 8	7 14	
10		8 4	3 56	22 58	27 50	4 52	1 0	6 47	
11		8 5	3 55	23 3	26 7	5 59	1 51	6 19	
12		8 5	3 55	23 7	23 15	7 9	2 40	5 51	
13	Lucy	8 6	3 54	23 12	19 25	8 23	3 26	5 22	
14	3 S. in Advent	8 6	3 54	23 15	14 49	9 36	4 9	4 53	
15		8 7	3 53	23 19	9 37	10 48	4 50	4 24	
16	O Sapientia	Camb. T. ends		23 21	3 59	11 59	5 31	3 55	
17	Ember Week	Oxf. Term ends		23 24	1 s 55	morn.	6 11	3 26	
18		8 8	3 52	23 25	7 56	1 14	6 53	2 56	
19		8 8	3 52	23 27	13 47	2 32	7 38	2 26	
20		8 8	3 52	23 28	19 12	3 55	8 27	1 56	
21	4 S. in Advent	St. Tho. Sho. d.		23 28	23 45	5 22	9 22	1 26	
22		8 8	3 52	23 28	26 56	6 52	10 23	0 55	
23		8 8	3 52	23 28	28 17	☾ sets	11 29	0 25	
24		8 8	3 52	23 27	27 31	4 a 0	0 a 36	obe. 5	
25	Christmas day	8 8	3 52	23 25	24 41	5 31	1 39	0 35	
26	St. Stephen	8 7	3 53	23 23	20 10	7 6	2 39	1 5	
27	St. John	8 7	3 53	23 21	14 29	8 37	3 34	1 35	
28	1 Sun. aft. Christ.	Innocent		23 18	8 10	10 3	4 24	2 4	
29		8 6	3 54	23 15	1 37	11 22	5 10	2 34	
30		8 6	3 54	23 11	4 n 48	morn.	5 55	3 3	
31	Silvester	8 5	3 55	23 6	10 50	1 37	6 39	3 32	
Days	Day decreas.	Length of day	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h sets
1	8 28	8 46	14 13	9 12	14 8	9 11	3 28	28 32	6 a 14
7	8 38	7 56	14 11	9 43	17 29	15 21	13 12	16 42	5 52
13	8 46	7 48	14 22	10 15	20 48	21 27	22 56	3 37	5 29
19	8 50	7 44	14 33	10 46	24 5	27 34	2 41	20 7	5 6
25	oinc. 2	7 46	14 44	11 17	27 20	3 41	12 26	6 56	4 40

1783

December.

31

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. C's node	h's latitude	U's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	5 54	6 6	2 8	14X19	0 n 19	0 s 36	0 s 15	1 n 45	0 n 40
7	5 57	6 3	2 10	14 0	0 18	0 36	0 2	2 24	0 s 2
13	5 59	6 1	2 12	13 41	0 18	0 36	0 n 10	2 52	0 42
19	6 1	5 59	3 11	13 22	0 17	0 36	0 20	3 9	1 16
25	6 1	5 59	2 11	13 3	0 17	0 36	0 30	3 20	1 44
Days	☉'s longitude	☾'s long.	☾'s latitude	h's long.	U's long.	δ's long.	♀'s long.	♂'s long.	
1	♂ 9 15 30	13X25	0 s 7	11 1/2 2	0 29	8 7	27 26	27 7	8
2	10 16 25	26 54	1 n 4	11 9	0 40	8 27	28 4	28 4	1
3	11 17 21	10 7 6	2 10	11 15	0 52	8 47	28 43	0 13	13
4	12 18 18	23 3	3 8	11 22	1 3	9 8	29 24	1 46	4
5	13 19 16	5 49	3 55	11 28	1 15	9 30	0 5	3 19	19
6	14 20 14	18 24	4 30	11 35	1 27	9 52	0 47	4 52	2
E	15 21 13	0 11 49	4 52	11 42	1 39	10 14	1 30	6 25	25
8	16 22 13	13 6	4 59	11 48	1 51	10 37	2 14	7 59	59
9	17 23 13	25 14	4 53	11 55	2 3	11 0	2 59	9 32	32
10	18 24 14	7 15	4 34	12 1	2 15	11 23	3 45	11 5	5
11	19 25 16	19 9	4 3	12 8	2 27	11 47	4 33	12 38	38
12	20 26 20	0 59	3 22	12 15	2 40	12 10	5 22	14 12	12
13	21 27 24	12 46	2 32	12 22	2 52	12 34	6 12	15 45	45
E	22 28 29	24 38	1 34	12 28	3 4	12 59	7 3	17 19	19
15	23 29 35	6 35	0 33	12 35	3 17	13 24	7 54	18 53	53
16	24 30 42	18 44	0 s 31	12 42	3 29	13 50	8 46	20 27	27
17	25 31 50	1 10	1 36	12 49	3 42	14 15	9 39	22 2	2
18	26 32 59	13 57	2 37	12 56	3 54	14 41	10 32	23 36	36
19	27 34 8	27 12	3 32	13 3	4 7	15 7	11 26	25 11	11
20	28 35 18	10 56	4 17	13 10	4 20	15 34	12 20	26 46	46
E	29 36 29	25 11	4 48	13 17	4 33	16 0	13 15	28 21	21
22	♂ 0 37 41	9 53	5 2	13 24	4 46	16 27	14 11	29 56	56
23	1 38 53	24 56	4 55	13 31	4 59	16 54	15 7	1 32	32
24	2 40 5	10 10	4 27	13 38	5 12	17 22	16 4	3 7	7
25	3 41 17	25 24	3 40	13 45	5 25	17 50	17 1	4 43	43
26	4 42 30	10 28	2 38	13 52	5 39	18 18	17 59	6 20	20
27	5 43 43	25 13	1 36	13 59	5 52	18 47	18 57	7 56	56
E	6 44 55	9 34	0 11	14 6	6 5	19 15	19 56	9 33	33
29	7 46 7	23 30	1 n 3	14 13	6 19	19 44	20 55	11 11	11
30	8 47 19	5 1	2 11	14 20	6 32	20 13	21 55	12 48	48
31	9 48 31	20 10	3 11	14 27	6 46	20 42	22 56	14 26	26
Days	U's sets	δ's sets	♀'s rises	♂'s rises	h's declin.	U's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	7 a 52	2 m 21	3 m 57	6 m 46	22 s 42	20 s 39	2 n 59	8 s 56	18 s 53
7	7 32	2 7	3 50	7 15	22 39	20 24	4 2	9 46	21 27
13	7 12	1 55	3 48	7 44	22 36	20 8	5 7	10 54	23 24
19	6 53	1 43	3 40	8 8	22 33	19 50	6 16	12 16	24 39
25	6 34	1 33	3 52	sets	22 29	19 31	7 28	13 44	25 7

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

Mo. Days	JANUARY				FEBRUARY				MARCH				APRIL				Mo. Days
	morn.		aftern.		morn.		aftern.		morn.		aftern.		morn.		aftern.		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
1			0	21	1	41	2	13	0	24	0	56	1	40	2	7	1
2	0	56	1	31	2	36	3	59	1	22	1	48	2	27	2	47	2
3	2	5	2	38	3	16	3	33	2	12	2	36	3	3	3	18	3
4	1	0	3	23	3	47	4	1	2	52	3	8	3	33	3	47	4
5	1	40	3	57	4	17	4	32	3	23	3	37	4	3	4	18	5
6	4	19	4	34	4	49	5	6	3	51	4	4	4	37	4	56	6
7	4	57	5	10	5	24	5	42	4	21	4	38	5	16	5	37	7
8	5	28	5	47	6	4	6	27	4	55	5	13	6	31	6	29	8
9	6	8	6	30	6	51	7	16	5	34	5	55	6	56	7	24	9
10	6	53	7	14	7	45	8	14	6	21	6	47	7	55	8	26	10
11	7	39	8	5	8	47	9	21	7	16	7	45	8	57	9	29	11
12	8	34	9	3	9	55	10	30	8	18	8	52	10	1	10	32	12
13	9	31	10	4	11	3	11	36	9	27	10	2	11	1	11	30	13
14	10	35	11	6			0	5	10	33	11	4	11	57			14
15	11	28			0	24	1	1	11	35			0	23	0	49	15
16	0	10	0	38	1	27	1	51	0	7	0	32	1	14	1	39	16
17	1	5	1	37	2	15	2	34	0	57	1	21	2	3	2	27	17
18	2	9	2	32	2	53	3	9	1	44	2	8	2	50	3	9	18
19	2	45	3	2	3	24	3	38	2	31	2	48	3	28	3	47	19
20	3	10	3	33	3	52	4	9	3	5	3	21	4	5	4	29	20
21	3	47	4	1	4	20	4	43	3	36	3	52	4	54	5	20	21
22	4	15	4	32	5	0	5	21	4	8	4	30	5	46	6	18	22
23	4	48	5	5	5	42	6	11	4	52	5	7	6	50	7	24	23
24	5	22	5	45	6	40	7	14	5	22	6	4	7	58	8	33	24
25	6	7	6	32	7	48	8	20	6	46	7	22	9	7	9	40	25
26	6	57	7	29	9	11	9	52	7	58	8	37	10	12	10	40	26
27	8	1	8	38	10	35	11	13	9	16	9	54	11	7	11	35	27
28	9	15	9	57	11	51			10	32	11	5			0	3	28
29	10	38	11	20					11	38			0	28	0	52	29
30			0	2					0	7	0	35	1	14	1	36	30
31	0	37	1	11					1	0	1	24					31

This Table may serve the following Places, by adding

	h	m
For Tinmouth Haven, Hartle-pool, and Amsterdam	0	30
Brest	1	0
Scilly	1	45
Mount's Bay	1	55
Bridlington Pier and Humber	2	0

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

Mo. Days	MAY				JUNE				JULY				AUGUST				Mo. Days
	morn		aftern.		morn		aftern.		morn.		aftern.		morn.		aftern.		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
1	1	59	2	21	2	58	3	16	3	14	3	30	3	49	4	2	1
2	2	39	2	57	3	33	3	49	3	45	3	59	4	18	4	34	2
3	3	14	3	30	4	6	4	22	4	14	4	30	4	50	5	6	3
4	3	46	4	2	4	41	5	0	4	47	5	4	5	25	5	44	4
5	4	22	4	42	5	1	5	36	5	21	5	38	6	8	6	33	5
6	5	1	5	20	5	58	6	20	5	59	6	20	7	2	7	32	6
7	5	43	6	7	6	42	7	5	6	42	7	5	8	9	8	47	7
8	6	32	6	58	7	29	7	54	7	32	8	0	9	29	10	11	8
9	7	24	7	50	8	21	8	50	8	34	9	8	10	54	11	36	9
10	8	18	8	47	9	21	9	53	9	45	10	22			0	13	10
11	9	17	9	48	10	25	10	58	11	3	11	44	0	50	1	22	11
12	10	10	10	44	11	33				0	22		1	51	2	20	12
13	11	14	11	44	0	8	0	41	0	59	1	34	2	46	3	4	13
14			0	13	1	14	1	48	2	8	2	35	3	22	3	37	14
15	0	41	1	9	2	22	2	48	3	2	3	21	3	51	4	7	15
16	1	37	2	6	3	14	3	35	3	40	3	57	4	23	4	41	16
17	2	36	2	59	3	55	4	17	4	14	4	32	4	59	5	17	17
18	3	22	3	43	4	38	4	59	4	51	5	8	5	35	5	58	18
19	4	3	4	28	5	20	5	42	5	26	5	47	6	21	6	47	19
20	4	52	5	17	6	4	6	28	6	8	6	21	7	14	7	44	20
21	5	41	6	10	6	52	7	17	6	54	7	19	8	14	8	47	21
22	6	38	7	7	7	42	8	3	7	45	8	14	9	21	9	55	22
23	7	35	8	4	8	25	8	58	8	44	9	17	10	30	11	3	23
24	8	32	9	0	9	32	10	2	9	50	10	22	11	35			24
25	9	28	9	57	10	32	11	2	10	55	11	28	0	4	0	32	25
26	10	27	10	54	11	32					0	1	0	58	1	24	26
27	11	20	11	47	0	1	0	30	0	29	0	57	1	46	2	7	27
28			0	14	0	56	1	23	1	23	1	48	2	27	2	47	28
29	0	38	1	2	1	49	2	15	2	11	2	34	3	2	3	16	29
30	1	27	1	52	2	37	2	58	2	51	3	8	3	30	3	44	30
31	2	16	2	40					3	22	3	36	3	58	4	12	31

Adding

h m

For Fowey, Loo and Plymouth	—	—	—	—	3	10
Dartmouth, Harborough and Hull	—	—	—	—	3	30
Torbay and Tinmouth	—	—	—	—	3	40
Exmouth, Topsham and Lyme	—	—	—	—	3	50
Weymouth	—	—	—	—	4	20
Bridgewater and Texel	—	—	—	—	4	40
Portland and Hartflew	—	—	—	—	5	50

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

Mo. Days	SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER				Mo. Days
	morn.		aftern.		morn.		aftern.		morn.		aftern.		morn.		aftern.		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
1	4	30	4	48	5	7	5	30	7	6	7	38	7	36	8	4	1
2	5	8	5	29	6	0	6	31	8	11	8	44	8	32	9	1	2
3	5	57	6	25	7	5	7	40	9	17	9	50	9	31	10	1	3
4	6	57	7	29	8	19	8	58	10	20	10	50	10	28	10	56	4
5	8	9	8	50	9	37	10	16	11	19	11	48	11	26	11	56	5
6	9	33	10	16	10	49	11	22			0	14			0	23	6
7	10	55	11	33	11	52			0	40	1	4	0	49	1	15	7
8			0	6	0	21	0	47	1	28	1	52	1	41	2	7	8
9	0	39	1	7	1	12	1	35	2	16	2	37	2	32	2	51	9
10	1	35	2	0	1	58	2	20	2	58	3	14	3	10	3	27	10
11	2	25	2	44	2	42	2	58	3	30	3	46	3	44	3	59	11
12	3	2	3	17	3	14	3	30	4	3	4	22	4	14	4	32	12
13	3	32	3	47	3	46	4	3	4	42	5	1	4	50	5	7	13
14	4	1	4	19	4	20	4	4	5	21	5	43	5	24	5	42	14
15	4	37	4	55	5	0	5	21	6	5	6	28	6	1	6	22	15
16	5	14	5	36	5	42	6	8	6	52	7	16	6	44	7	5	16
17	5	59	6	26	6	35	7	1	7	41	8	8	7	27	7	51	17
18	6	53	7	23	7	28	7	58	8	35	9	3	8	16	8	47	18
19	7	53	8	25	8	29	9	0	9	31	9	59	9	19	9	51	19
20	8	58	9	32	9	30	9	59	10	27	10	56	10	24	10	59	20
21	10	6	10	37	10	28	10	56	11	25	11	54	11	34			21
22	11	7	11	36	11	23	11	49			0	22	0	9	0	45	22
23			0	5			0	15	0	51	1	19	1	19	1	53	23
24	0	29	0	53	0	39	1	3	1	49	2	19	2	24	2	54	24
25	1	16	1	38	1	27	1	51	2	44	3	8	3	15	3	36	25
26	2	6	2	22	2	15	2	40	3	29	3	50	3	55	4	14	26
27	2	40	2	58	3	0	3	19	4	13	4	36	4	35	4	56	27
28	3	14	3	30	3	38	3	57	4	59	5	22	5	16	5	36	28
29	3	46	4	2	4	20	4	43	5	45	6	14	5	59	6	22	29
30	4	22	4	43	5	8	5	34	6	41	7	9	6	46	7	10	30
31					6	4	6	35					7	36	8	2	31

Subtracting

h m

For Leigh, Maes, and Gouries Gut	—	—	—	—	0	5
Gravesend, Rochester, and Rammekins	—	—	—	—	1	20
Buoy of the Nore and Flushing	—	—	—	—	1	30
Portsmouth, Ostend, Shoe-Beacon, and Red-Sand	—	—	—	—	2	0
Harwich, Dover, Spithead, and Calais	—	—	—	—	3	0
Gunfleet, Hastings, Shoreham, Orfordness, and Diep	—	—	—	—	4	0
Yarmouth Pier and Needle	—	—	—	—	4	40
St. Helen's and Havre-de-Grace	—	—	—	—	5	30

THERE will happen 6 eclipses this year, viz. 4 of the Sun, and 2 of the Moon:

I. The first is an eclipse of the Sun, on Monday the 3d day of March, about 13 minutes past seven o'clock in the morning, invisible here; but will be visible in New Holland, the Indian Sea, &c.

II. The 2d will be a total and visible eclipse of the Moon, on Tuesday the 18th of March:

	LONDON			YORK			EDINB.			
	h	m	s	h	m	s	h	m	s	
Beg. of the eclipse	7	31	8	7	26	41	7	17	55	March 18th
Beg. of total darkness	8	31	38	8	27	11	8	18	25	afternoon,
Middle	9	22	38	9	18	11	9	9	25	apparent
End of total darkness	10	13	38	10	9	11	10	0	25	time.
End of the eclipse	11	14	8	11	9	41	11	0	55	
Digits eclipsed	21°	27'		21°	27'		21°	27'		

III. The third is an invisible eclipse of the Sun, on the 1st of April, near 9 at night, consequently invisible to us; but will be visible to the north-western parts of North America, and to the eastern parts of Asia.

IV. The 4th is an eclipse of the Sun, on August 27th, near half past 10 o'clock at night, invisible to us here in England; but will be visible in North America.

V. The 5th is another total and visible eclipse of the Moon, on Wednesday the 10th of September, near midnight:

	LONDON			NOTTING.			YORK			
	h	m	s	h	m	s	h	m	s	
Beg. of the eclipse	9	43	38	9	39	38	9	39	11	Sept. 10th
Beg. of total darkness	10	43	23	10	39	23	10	38	56	afternoon,
Middle	11	34	23	11	30	23	11	29	56	apparent
End of total darkness	12	25	53	12	21	53	12	21	26	time.
End of the eclipse	13	25	8	13	21	8	13	20	41	
Digits eclipsed	21°	20'		21°	20'		21°	20'		

VI. The 6th and last eclipse is of the Sun, on the 26th of September, near our noon; but by reason of the Moon's great south latitude, it will be invisible to us; but will be visible at the Cape of Good Hope, &c. &c.

Speculum Phænomenorum

JANUARY		FEBRUARY		MARCH	
2	♂ ♀ ☾ 7h.	1	♂ ☉ ☾ 7h.	2	♂ ♀ ☾ 6h.
2	♂ ♀ ☽ 7h.	1	♂ ♀ ☾ 19h.	2	♂ ☉ ☾ 19h.
2	♂ ♀ ☾ 17h.	2	♂ ♀ ☾ 9h.	3	☉ eclips. invisible
2	♂ ♀ ☾ 19h.	8	♀ in ☿	10	☾ in apogeo
2	♂ ☉ ☽ 20h.	11	☾ in apogeo	13	♀ stationary
4	♂ ☉ ♀ 6h.	11	♀ elong. max. a ☉	18	♀ in ☿
12	♂ ☉ ♀ 10h.	12	♀ in perihelio	18	☾ eclips. visible
14	☾ in apogeo	18	♀ stationary	20	☉ in ♀ 5h. 4m.
19	☉ in ☿ 13h. 48m.	18	☉ in ♀ 4h. 36m.	24	☾ in perigeo
19	♀ in aphelio	25	♂ ♀ ☾ 22h.	25	♂ ♀ ☾ 18h.
28	♂ ♀ ☾ 7h.	25	☾ in perigeo	26	♂ ♀ ☽ 13h.
28	☾ in perigeo	26	♂ ♀ ☾ 10h.	26	♂ ♀ ☾ 21h.
29	♂ ♀ ☾ 22h.	26	♂ ☉ ♀ 21h.	26	♀ elong. max. a ☉
30	♂ ♀ ☽ 13h.	27	♂ ♀ ☾ 7h.	28	♀ in aphelio
				30	♂ ♀ ☾ 5h.
APRIL		MAY		JUNE	
1	☉ eclips. invisible	3	♂ ♀ ☾ 13h.	1	☾ in apogeo
1	♂ ☉ ☾ 9h.	3	♀ in ☿	1	♂ ♀ ☾ 16h.
1	☉ ☾ 18h.	4	☾ in apogeo	2	♂ ♀ ☾ 21h.
3	♂ ♀ ☾ 5h.	6	♂ ☉ ♀ 10h.	7	♀ elong. max. a ☉
7	☾ in apogeo	11	♀ in perihelio	14	♀ in ☿
8	♀ in ☿	11	♀ in perihelio	15	♂ ♀ ☾ 15h.
19	☉ in ♀ 17h. 52m.	18	☾ in perigeo	15	☾ in perigeo
20	☉ ☽ 20h.	19	♂ ♀ ☾ 8h.	17	♂ ♀ ☾ 0h.
21	☾ in perigeo	20	♂ ♀ ☾ 17h.	20	♂ ♀ ☾ 10h.
22	♂ ♀ ☾ 1h.	20	☉ in ☿ 18h. 30m.	21	☉ in ☿ 3h. 12m.
22	♀ stationary	21	♀ stationary	21	♀ stationary
23	♂ ♀ ☾ 8h.	23	☉ ☽ 14h.	24	♀ in aphelio
24	♂ ♀ ☾ 4h.	22	♂ ♀ ☾ 20h.	28	☾ in apogeo
30	♂ ♀ ☾ 9h.	30	♂ ☉ ☾ 14h.	29	♂ ☉ ☾ 5h.
30	♂ ☉ ☾ 23h.			29	♂ ♀ ☾ 19h.

ad Annum 1783.

JULY	AUGUST	SEPTEMBER
1 $\delta \odot \text{h. oh.}$ 3 $\delta \text{♀} \text{ (oh.}$ 3 $\delta \odot \text{♀ 2oh.}$ 12 (h (22h. 12 (in perigeo 14 $\delta \text{ (6h.}$ 15 ♀ stationary 18 $\delta \text{♂ (21h.}$ 20 $\delta \odot \text{ (1h.}$ 22 $\odot \text{ in } \text{ (14h. 2m.}$ 25 $\text{♀ elong. max. a } \odot$ 26 (in apogeo 27 $\delta \text{♀ (1h.}$ 28 $\delta \odot \text{ (2oh.}$	1 $\delta \text{♀ (2oh.}$ 2 $\text{♀ in } \text{ (}$ 5 $\delta \text{ in perihelio}$ 7 ♀ in perihelio 8 (in perigeo 9 $\delta \text{ h (6h.}$ 10 $\delta \text{ (11h.}$ 13 $\text{♀ elong. max. a } \odot$ 15 $\delta \text{♂ (22h.}$ 19 $\delta \odot \text{♀ 7h.}$ 22 $\odot \text{ in } \text{ (2oh. 21m.}$ 23 (in apogeo 27 $\odot \text{ eclips. invis.}$ 27 $\delta \odot \text{ (11h.}$ 28 $\delta \text{♀ (4h.}$ 31 $\delta \text{♀ (4h.}$	1 ♀ in aphelio 5 $\delta \text{ h (12h.}$ 5 (in perigeo 6 $\delta \text{ (16h.}$ 10 $\text{♀ in } \text{ (}$ 10  (eclips. visible 12 $\delta \text{♂ (8h.}$ 19 (in apogeo 20 ♀ in aphelio 22 $\odot \text{ in } \text{ (16h. 14m.}$ 26 $\delta \odot \text{ (oh.}$ 26 $\odot \text{ eclips. invis.}$ 28 $\delta \text{♀ (oh.}$ 28 $\delta \text{♀ (12h.}$ 29 $\square \odot \text{ h 5h.}$
OCTOBER	NOVEMBER.	DECEMBER.
1 $\delta \odot \text{♂ 1h.}$ 2 ♀ stationary 2 $\delta \text{ h (19h.}$ 3 $\delta \text{ (22h.}$ 3 (in perigeo 4 $\text{♀ elong. max. a } \odot$ 9 $\delta \text{♂ (4h.}$ 16 $\square \odot \text{ (21h.}$ 17 ♀ stationary 17 (in apogeo 21 $\delta \odot \text{♀ 18h.}$ 23 $\odot \text{ in } \text{ (oh. 42m.}$ 25 $\delta \text{♀ (3h.}$ 25 $\delta \odot \text{ (13h.}$ 25 $\delta \text{♀ (22h.}$ 27 $\delta \odot \text{♀ 7h.}$ 30 $\delta \text{ h (3h.}$ 31 $\delta \text{ (8h.}$ 31 (in perigeo	3 ♀ in perihelio 5 $\delta \text{♂ (5h.}$ 6 ♀ stationary 13 $\text{♀ elong. max. a } \odot$ 13 (in apogeo 19 $\text{♀ in } \text{ (}$ 21 $\odot \text{ in } \text{♂ 2oh. 53m.}$ 21 $\delta \text{♀ (6h.}$ 22 $\delta \text{♀ (2oh.}$ 24 $\delta \odot \text{ (1h.}$ 26 $\delta \text{ h (15h.}$ 27 $\delta \text{ (2oh.}$ 27 (in perigeo	2 $\delta \text{♂ (22h.}$ 7 $\text{♀ in } \text{ (}$ 8 $\delta \text{ in } \text{ (}$ 11 (in apogeo 17 ♀ in aphelio 20 $\delta \text{♀ (2h.}$ 21 $\odot \text{ in } \text{ (9h. 13m.}$ 22 ♀ in aphelio 23 $\delta \odot \text{♀ 5h.}$ 23 $\delta \odot \text{ (11h.}$ 23 $\delta \text{♀ (12h.}$ 24 $\delta \text{ h (6h.}$ 25 $\delta \text{ (16h.}$ 25 (in perigeo 31 $\delta \text{♂ (16h.}$

The Eclipses of Jupiter's.

JANUARY	FEBRUARY	MARCH	APRIL
The Eclipses of Jupiter's Satellites will not be visible this month, Jupiter being too near the Sun.	Immersions	Immersions	Immersions
	1 0 0 33	1 7 36 5	2 4 14 46
	2 18 28 45	3 2 4 48	3 22 43 36
	4 12 57 0	4 20 33 31	5 17 12 25
	6 7 25 18	6 15 2 15	7 11 41 16
	8 1 53 36	8 9 31 1	9 6 10 4
	9 20 21 58	10 3 59 47	11 0 38 50
	11 14 50 22	11 22 28 36	12 19 7 36
	13 9 18 49	13 16 57 25	14 13 36 21
	15 3 47 16	15 11 26 16	16 8 5 0
	16 22 15 45	17 5 55 5	18 2 33 50
	18 16 44 18	19 0 23 56	19 21 2 32
	20 11 12 51	20 18 52 48	21 15 31 15
	22 5 41 27	22 13 21 41	23 9 59 56
	24 0 10 4	24 7 50 32	25 4 28 33
	25 18 38 44	26 2 19 22	26 22 57 11
	27 13 7 26	27 20 48 14	28 17 25 47
		29 15 17 5	30 11 54 20
		31 9 45 55	
MAY	JUNE	JULY	AUGUST
Immersions	Immersions	Immersions	Emersions
2 6 22 53	1 8 24 26	1 10 22 30	2 9 10 31
4 0 51 24	3 2 52 34	3 4 50 43	4 3 39 24
5 19 19 54	4 21 20 40	4 23 18 57	5 22 8 19
7 13 48 22	6 15 48 46	6 17 47 13	7 16 37 17
9 8 16 48	8 10 16 52	8 12 15 31	9 11 6 17
11 2 45 14	10 4 44 58	10 6 43 50	11 5 35 19
12 21 13 39	11 23 13 4	12 1 12 11	13 0 4 23
14 15 42 2	13 17 41 10	13 19 40 35	14 18 33 30
16 10 10 23	15 12 9 16	15 14 9 0	16 13 2 39
18 4 38 42	17 6 37 22	17 8 37 29	18 7 31 51
19 23 7 1	19 1 5 28	19 3 5 59	20 2 1 4
21 17 35 16	20 19 33 35	Emersions	21 20 30 19
23 12 3 31	22 14 1 42	20 23 49 32	23 14 59 36
25 6 31 45	24 8 29 49	22 18 18 8	25 9 28 55
27 0 59 57	26 2 57 58	24 12 46 46	27 3 58 16
28 19 28 8	27 21 26 8	26 7 15 26	28 22 27 39
30 13 56 17	29 15 54 17	28 1 44 9	30 16 57 2
		29 20 12 54	
		31 14 41 41	

first Satellite for 1783.

SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Emerfions	Emerfions	Emerfions	Emerfions
1 11 26 23	1 13 48 .4	2 10 35 2	2 12 40 31
3 5 55 51	3 8 17 33	4 5 3 57	4 7 8 42
5 0 25 19	5 2 47 3	5 23 32 50	6 1 36 52
6 18 54 48	6 21 16 30	7 18 1 40	7 20 5 0
8 13 24 17	8 15 45 57	9 12 30 28	9 14 33 5
10 9 53 48	10 10 15 22	11 6 59 14	11 9 1 8
12 2 23 19	12 4 44 46	13 1 27 58	13 3 29 9
13 20 52 51	13 23 14 9	14 19 56 36	14 21 57 8
15 15 22 23	15 17 43 30	16 14 25 12	16 16 25 6
17 9 51 54	17 12 12 49	18 8 53 45	18 10 53 5
19 4 21 25	19 6 42 6	20 3 22 15	20 5 21 3
20 22 50 57	21 1 11 21	21 21 50 42	21 23 49 0
22 17 20 30	22 19 40 34	23 16 19 7	23 18 16 56
24 11 50 2	24 14 9 44	25 10 47 29	25 12 44 52
26 6 19 33	26 8 38 52	27 5 15 49	27 7 12 48
28 0 49 3	28 3 7 58	28 23 44 7	29 1 40 44
29 19 18 53	29 21 37 1	30 18 12 21	30 20 8 41
	31 16 6 2		

The Times of the Eclipses contained in this Table, are adapted to the Meridian of the Royal Observatory at Greenwich, and afford an excellent Method to discover the Longitude or Difference of Meridians, between that and any other Place; which I shall illustrate by an EXAMPLE:

Suppose on the 5th Day of October this Year, the Time of the Emerfion of Jupiter's first Satellite be observed (by a Telescope) in an unknown Meridian, to happen at 4 h. 55 min. 15 sec. at night; I find by the Table, that the Time of this Emerfion will happen at the British Observatory, at 2 h. 47 min. 3 sec. the same day: The Difference of the Times is 2 hours 8 min. 12 sec. which being converted into Degrees and Minutes of the Equator, will make 32 deg. 3 min. the Longitude of the Place of Observation, to the East, because the Time is more than that at the British Observatory.

A Table of the Sun's semi-diurnal Arches, or Times

The SUN's Declination North.

Degr.	Lat. 49		Lat. 50		Lat. 51		Lat. 52		Lat. 53		Lat. 54	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	6	8	6	8	6	8	6	9	6	9	6	9
2	6	12	6	13	6	13	6	14	6	14	6	15
3	6	17	6	18	6	18	6	19	6	19	6	29
4	6	22	6	22	6	22	6	24	6	25	6	25
5	6	26	6	27	6	27	6	29	6	30	6	31
6	6	31	6	32	6	33	6	34	6	36	6	37
7	6	36	6	37	6	38	6	40	6	41	6	43
8	6	41	6	42	6	43	6	45	6	47	6	48
9	6	45	6	47	6	48	6	50	6	52	6	54
10	6	50	6	52	6	54	6	56	6	58	7	0
11	6	55	6	57	6	59	7	1	7	3	7	6
12	7	0	7	2	7	4	7	7	7	9	7	12
13	7	5	7	7	7	10	7	12	7	15	7	18
14	7	10	7	13	7	15	7	18	7	21	7	24
15	7	15	7	18	7	21	7	24	7	27	7	31
16	7	21	7	24	7	27	7	30	7	33	7	37
17	7	26	7	29	7	33	7	36	7	40	7	44
18	7	31	7	35	7	38	7	42	7	46	7	51
19	7	37	7	41	7	45	7	49	7	53	7	58
20	7	43	7	47	7	51	7	55	8	0	8	5
21	7	49	7	53	7	57	8	2	8	7	8	12
22	7	55	7	59	8	4	8	9	8	14	8	20
23	8	1	8	6	8	11	8	16	8	22	8	28
24	8	7	8	12	8	18	8	24	8	30	8	36

By these Tables the Times of the Sun's Rising and Setting may be found, in any Part of the Kingdom of *Great-Britain* or *Ireland*, after the following Manner: Where the Latitude of the Place is known, take the Sun's Declination out of the Table, on the Noon of the Day you desire to know the Time of his Rising and Setting; and with it, according as it is either North or South, enter these Tables in the Left-

of his visible half Duration above the Horizon.

The Sun's Declination South.

Degr.	Lat. 49		Lat. 50		Lat. 51		Lat. 52		Lat. 53		Lat. 54	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	5	59	5	59	5	58	5	58	5	58	5	58
2	5	54	5	54	5	53	5	53	5	53	5	53
3	5	49	5	49	5	49	5	48	5	48	5	47
4	5	45	5	44	5	44	5	44	5	42	5	42
5	5	40	5	39	5	39	5	38	5	37	5	36
6	5	35	5	35	5	34	5	33	5	31	5	30
7	5	31	5	30	5	29	5	27	5	26	5	25
8	5	26	5	25	5	23	5	22	5	21	5	19
9	5	21	5	20	5	18	5	17	5	16	5	13
10	5	17	5	15	5	13	5	11	5	10	5	8
11	5	12	5	10	5	8	5	6	5	4	5	2
12	5	7	5	5	5	3	5	0	4	58	4	56
13	5	2	5	0	4	57	4	55	4	52	4	50
14	4	57	4	54	4	52	4	49	4	47	4	44
15	4	52	4	49	4	46	4	44	4	41	4	37
16	4	46	4	45	4	41	4	38	4	34	4	31
17	4	41	4	38	4	35	4	32	4	28	4	23
18	4	36	4	33	4	29	4	26	4	22	4	18
19	4	30	4	27	4	23	4	19	4	15	4	11
20	4	25	4	21	4	17	4	13	4	9	4	4
21	4	19	4	15	4	11	4	6	4	2	3	57
22	4	13	4	9	4	4	4	0	3	55	3	50
23	4	7	4	2	3	58	3	53	3	47	3	42
24	4	1	3	56	3	51	3	46	3	40	3	34

Left-hand Column, under the Word Degrees; then look the Latitude of the Place in the Top of the Table; and in that Column, against the Sun's Declination, will be found the Time of his visible half Duration above the Horizon, or Time of his Setting, correct by Refraction; then subtract the Time of his Setting from 12 Hours, the Remainder will be the Time of his Rising; double the Time of his Setting, the

A Table of the Sun's semi-diurnal Arches, or Times

The Sun's Declination North.

Degr.	Lat. 55		Lat. 56		Lat. 57		Lat. 58		Lat. 59		Lat. 60	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	6	9	6	10	6	10	6	10	6	11	6	11
2	6	15	6	16	6	16	6	17	6	17	6	18
3	6	21	6	22	6	22	6	23	6	24	6	25
4	6	27	6	28	6	29	6	30	6	31	6	32
5	6	32	6	34	6	35	6	36	6	38	6	39
6	6	38	6	40	6	41	6	43	6	44	6	46
7	6	44	6	46	6	48	6	49	6	51	6	53
8	6	50	6	52	6	54	6	56	6	58	7	1
9	6	56	6	58	7	1	7	3	7	5	7	8
10	7	2	7	5	7	7	7	10	7	13	7	16
11	7	8	7	10	7	14	7	17	7	20	7	23
12	7	15	7	18	7	21	7	24	7	27	7	31
13	7	21	7	24	7	28	7	31	7	35	7	39
14	7	28	7	31	7	35	7	39	7	43	7	47
15	7	34	7	39	7	42	7	46	7	51	7	56
16	7	41	7	45	7	49	7	54	7	59	8	4
17	7	48	7	52	7	57	8	1	8	7	8	13
18	7	55	8	0	8	5	8	10	8	16	8	22
19	8	2	8	7	8	13	8	19	8	25	8	32
20	8	10	8	15	8	21	8	28	8	35	8	42
21	8	18	8	24	8	30	8	37	8	45	8	53
22	8	26	8	32	8	39	8	47	8	55	9	4
23	8	34	8	41	8	49	8	57	9	6	9	16
24	8	43	8	51	8	59	9	8	9	18	9	29

the Sum will be the Length of the Day ; and double the Time of his Rising, the Sum will be the Length of the Night. But if the Latitude of the Place, and Declination of the Sun, consist of Degrees and Minutes, then a small Allowance must be made for the Minutes in both Cases, which may be done by a Person of an ordinary Capacity by a mental Proportion only. Thus, to find the Time of the Sun's Rising and Setting at

of his visible half Duration above the Horizon.

The Sun's Declination South.

Degr.	Lat. 55		Lat. 56		Lat. 57		Lat. 58		Lat. 59		Lat. 60	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	5	58	5	58	5	58	5	58	5	57	5	57
2	5	52	5	52	5	52	5	51	5	51	5	50
3	5	47	5	46	5	45	5	45	5	44	5	43
4	5	41	5	40	5	39	5	38	5	37	5	36
5	5	35	5	34	5	33	5	32	5	31	5	29
6	5	29	5	28	5	27	5	25	5	24	5	22
7	5	23	5	22	5	20	5	19	5	17	5	15
8	5	17	5	16	5	14	5	12	5	10	5	8
9	5	12	5	10	5	8	5	5	5	3	5	2
10	5	5	5	3	5	1	4	59	4	56	4	53
11	4	59	4	57	4	54	4	52	4	49	4	46
12	4	53	4	51	4	48	4	45	4	42	4	38
13	4	47	4	44	4	41	4	38	4	34	4	30
14	4	41	4	37	4	34	4	30	4	27	4	23
15	4	34	4	31	4	27	4	23	4	19	4	14
16	4	27	4	24	4	20	4	15	4	11	4	6
17	4	21	4	17	4	12	4	8	4	3	3	57
18	4	14	4	9	4	5	4	0	3	54	3	48
19	4	7	4	2	3	56	3	51	3	45	3	39
20	3	59	3	54	3	49	3	43	3	36	3	29
21	3	52	3	46	3	40	3	34	3	27	3	19
22	3	44	3	38	3	31	3	24	3	17	3	9
23	3	36	3	29	3	23	3	15	3	6	2	57
24	3	27	3	20	3	13	3	5	2	55	2	45

at Aberdeen in Scotland, on the Longest Day; the Latitude of that Place is accounted 57 Degr. 7 Min. North, and the Sun's Declination 23 Degr. 28 Min. likewise North. By these you will find by the Table, that 5 Min. for the Sun's Declination, and 1 Min. for the Latitude of the Place, are both, to be added to 8 Hours 49 Min. the Time belonging to 57 Degr. of Latitude and 23 Degr. of North Declination, and the Sum will be 8 Hours 55 Min. the Time of his apparent Setting at Aberdeen, on the longest Day, whose Complement to 12 Hours, viz. 3 Hours 5 Min. will be the Time of his Rising, &c.

A Table of the Sun's Right-Ascension in Time, the greatest

Degr.	♈			♉			♊			♋			♌			♍		
	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s
0	0	0	0	1	51	37	3	51	15	6	0	0	8	8	45	10	8	23
1	0	3	40	1	55	27	3	55	25	6	4	22	8	12	54	10	12	12
2	0	7	20	1	59	17	3	59	36	6	8	43	8	17	3	10	16	0
3	0	11	0	2	3	8	4	3	48	6	13	5	8	21	11	10	19	48
4	0	14	41	2	6	59	4	8	0	6	17	26	8	25	19	10	23	35
5	0	18	21	2	10	51	4	12	13	6	21	48	8	29	26	10	27	22
6	0	22	2	2	14	44	4	16	26	6	26	9	8	33	31	10	31	8
7	0	25	42	2	18	37	4	20	40	6	30	30	8	37	37	10	34	54
8	0	29	23	2	22	31	4	24	55	6	34	51	8	41	41	10	38	40
9	0	33	4	2	26	25	4	29	10	6	39	11	8	45	45	10	42	25
10	0	36	45	2	30	20	4	33	26	6	43	31	8	49	48	10	46	9
11	0	40	26	2	34	16	4	37	42	6	47	51	8	53	51	10	49	53
12	0	44	8	2	38	13	4	41	59	6	52	11	8	57	52	10	53	37
13	0	47	50	2	42	10	4	46	16	6	56	31	9	1	53	10	57	20
14	0	51	32	2	46	8	4	50	34	7	0	50	9	5	53	11	1	3
15	0	55	14	2	50	7	4	54	52	7	5	8	9	9	53	11	4	46
16	0	58	5	2	54	7	4	59	10	7	9	26	9	13	52	11	8	28
17	1	2	40	2	58	7	5	3	29	7	13	44	9	17	50	11	12	10
18	1	6	23	3	2	8	5	7	49	7	18	1	9	21	47	11	15	52
19	1	10	7	3	6	9	5	12	9	7	22	18	9	25	44	11	19	34
20	1	13	51	3	10	12	5	16	29	7	26	34	9	29	40	11	23	15
21	1	17	35	3	14	15	5	20	49	7	30	50	9	33	35	11	26	56
22	1	21	20	3	18	19	5	25	9	7	35	5	9	37	29	11	30	37
23	1	25	6	3	22	23	5	29	30	7	39	20	9	41	23	11	34	18
24	1	28	52	3	26	29	5	33	51	7	43	34	9	45	16	11	37	58
25	1	32	38	3	30	35	5	38	12	7	47	47	9	49	9	11	41	39
26	1	36	25	3	34	41	5	42	34	7	52	0	9	53	1	11	45	19
27	1	40	12	3	38	49	5	46	55	7	56	12	9	56	52	11	49	0
28	1	44	0	3	42	57	5	51	17	8	0	24	10	0	43	11	52	40
29	1	47	48	3	47	6	5	55	38	8	4	35	10	4	33	11	56	20
30	1	51	37	3	51	15	6	0	0	8	8	45	10	8	23	12	0	0

The time of the southing or meridian transits of the fixed stars in pa. 46, may be found thus. On the noon of the day, preceding the night in which you want to know the time of the southing of any of those stars, find the Sun's place in the Ephemeris, and with it take out of the above table his right ascension in time; this you may do by inspection to a minute, which will be sufficient for your present purpose: Then from the right ascension of the star in pa. 46, subtract the right ascension of the Sun, the remainder will be the estimate time of the star's southing, and will not differ from the true time above 2 or 3 minutes at most, which may be near enough for ordinary uses. But when great exactness is required, reduce the Sun's place to this estimate time, and with it find in the above table his right ascension to seconds, which being subtracted from that of the star, the remainder will be the

Obliquity of the Ecliptic being $23^{\circ} 28'$.

Deg.	α			η			$\uparrow$			$\wp$			$\sim$			$\times$		
	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s
0	12	0	0	13	51	37	15	51	15	18	0	0	20	8	45	22	8	23
1	12	3	40	13	55	27	15	55	25	18	4	22	20	12	54	22	12	12
2	12	7	20	13	59	17	15	59	36	18	8	43	20	17	3	22	16	0
3	12	11	0	14	3	8	16	3	48	18	13	5	20	21	11	22	19	48
4	12	14	41	14	6	59	16	7	0	18	17	26	20	25	19	22	23	35
5	12	18	21	14	10	51	16	12	13	18	21	48	20	29	26	22	27	22
6	12	22	2	14	14	44	16	16	26	18	26	9	20	33	31	22	31	8
7	12	25	42	14	18	37	16	20	40	18	30	30	20	37	37	22	34	54
8	12	29	23	14	22	31	16	24	55	18	34	51	20	41	41	22	38	40
9	12	33	4	14	26	25	16	29	10	18	39	11	20	45	45	22	42	25
10	12	36	45	14	30	20	16	33	26	18	43	31	20	49	48	22	46	0
11	12	40	26	14	34	16	16	37	42	18	47	51	20	53	51	22	49	53
12	12	44	8	14	38	13	16	41	59	18	52	11	20	57	52	22	53	37
13	12	47	50	14	42	10	16	46	16	18	56	31	21	1	53	22	57	20
14	12	51	32	14	46	8	16	50	34	19	0	50	21	5	53	23	1	3
15	12	55	14	14	50	7	16	54	52	19	5	8	21	9	53	23	4	46
16	12	58	57	14	54	7	16	59	10	19	9	46	21	13	52	23	8	28
17	13	2	40	14	58	7	17	3	29	19	13	44	21	17	50	23	12	10
18	13	6	23	15	2	8	17	7	49	19	18	1	21	21	47	23	15	52
19	13	10	7	15	6	9	17	12	9	19	22	18	21	25	44	23	19	34
20	13	13	51	15	10	12	17	16	29	19	26	34	21	29	40	23	23	15
21	13	17	35	15	14	15	17	20	49	19	30	50	21	33	35	23	26	56
22	13	21	20	15	18	19	17	25	9	19	35	5	21	37	29	23	30	37
23	13	25	6	15	22	23	17	29	30	19	39	20	21	41	23	23	34	18
24	13	28	52	15	26	29	17	33	51	19	43	34	21	45	16	23	37	58
25	13	32	38	15	30	35	17	38	12	19	47	47	21	49	9	23	41	39
26	13	36	25	15	34	41	17	42	34	19	52	0	21	53	1	23	45	19
27	13	40	12	15	38	49	17	46	55	19	56	12	21	56	52	23	49	0
28	13	44	0	15	42	57	17	51	17	20	0	24	22	0	43	23	52	40
29	13	47	48	15	47	6	17	55	38	20	4	35	22	4	33	23	56	20
30	13	51	37	15	51	15	18	0	0	20	8	45	22	8	23	24	0	0

the true time of the star's culminating or southing. And if from the time of the star's southing you subtract the semidiurnal arc belonging to it, the remainder will be the time of the star's rising; and being added to it, the sum will be the time of its setting.

Annexed is an Ex. of SIRIUS for Jan. 4, 1783.

	h	m	s
☉'s place at noon $\wp 14^{\circ} 8'$			
Rt. Asc. of Sirius - -	6	35	33
☉'s rt. asc. subtract - -	19	1	25
*'s estimate southing - -	11	34	8
☉'s rt. asc. at that time sub.	19	3	14
*'s true southing - -	11	32	19
Semid. arc sub. & add - -	4	36	55
*'s rising aftern. - -	6	55	24
*'s setting - -	16	9	14

A Table of the mean Right-Ascensions in time, Semidurnal-Arcs, Declinations, and Magnitudes of 40 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January 1, 1782.

Names of the Stars	Ch.	Rt. Asc.			Declination			Semid. Ar.			Ma
		h	m	s	°	'	"	h	m	s	
Pole star, Alruccabah -	α	0	48	3	88	8	36	n	sets	not	2
Andromeda's girdle, Mirach -	β	0	57	36	34	27	35	n	10	7	32
Andromeda's left foot, Almach -	γ	1	50	36	41	16	30	n	sets	not	2
Ram's following horn -	α	1	54	56	22	25	27	n	8	9	33
Whale's jaw, Menkar -	α	2	50	54	3	13	26	n	6	19	48
Medusa's head, Algol -	β	2	54	4	40	6	6	n	sets	not	2
Perseus's right side, Algenib -	α	3	8	51	49	4	11	n	sets	not	2
Brightest of the 7 stars -	η	3	34	34	23	25	2	n	8	16	40
Bull's south eye, Aldebaran -	α	4	23	26	16	3	23	n	7	28	51
Auriga's left shoulder, Capella -	α	5	0	37	45	44	59	n	sets	not	1
Orion's left foot, Rigel -	β	5	4	4	8	28	3	s	5	20	28
Bull's north horn -	β	5	12	32	28	24	22	n	8	57	1
Orion's left shoulder, Bellatrix -	γ	5	13	27	6	8	10	n	6	34	41
Orion's girdle -	ϵ	5	25	10	1	21	24	s	5	56	42
Orion's right shoulder, Betelgeuse -	α	5	43	23	7	20	59	n	6	40	58
In the great Dog's mouth, Sirius -	α	6	35	33	16	25	14	s	4	36	55
Head of the 1st Twin, Castor -	α	7	20	41	32	20	54	n	9	38	21
In the left Dog's thigh, Procyon -	α	7	27	54	5	46	41	n	6	32	50
Head of the 2d Twin, Pollux -	β	7	31	59	28	32	14	n	8	58	13
Hydra's heart, Alphard -	α	9	16	53	7	43	21	s	5	24	29
Lion's heart, Regulus -	α	9	56	45	13	1	32	n	7	11	28
Great Bear, Lower Pointer -	β	10	48	34	57	32	47	n	sets	not	2
Great Bear, Upper Pointer -	α	10	50	8	62	55	27	n	sets	not	2
Lion's tail, Deneb -	β	11	37	56	15	47	28	n	7	27	18
Great Bear, 1st in the tail, Aliath -	ϵ	12	44	22	57	8	46	n	sets	not	2
Virgins's spike -	α	13	13	44	10	1	2	s	5	12	20
Dragon's tail -	α	13	58	30	65	25	19	n	sets	not	2
Bootes, Arcturus -	α	14	5	46	20	20	5	n	7	55	26
Libra, Southern Scale -	α	14	38	52	15	7	26	s	4	44	23
Libra, Northern Scale -	β	15	5	18	8	33	59	s	5	19	57
Bright star in the North Crown -	α	15	25	28	27	27	35	n	8	48	36
Scorpion's heart, Antares -	α	16	16	4	25	55	50	s	3	34	6
Hercules's head, Raf. Algethi -	α	17	4	43	14	39	8	n	7	20	41
Head of Serpentarius -	α	17	24	49	12	44	2	n	7	9	50
Dragon's head, Rastaben -	γ	17	51	34	51	31	19	n	sets	not	2
Bright star in the Harp, Lyra -	α	18	29	33	38	35	19	n	sets	not	1
Bright star in the Eagle, Atair -	α	19	40	8	8	18	10	n	6	45	57
Mouth of south Fish, Fomalhaut -	α	22	45	34	30	46	17	s	2	52	6
Pegasus's wing, Markab -	α	22	53	55	14	2	8	n	7	17	10
Andromeda's head -	α	23	57	9	27	53	2	n	8	52	19

A Table of the Longitudes, Latitudes, and Magnitudes of the most remarkable fixed Stars that the Moon can Eclipse, or make a near Appulse unto; exactly rectified to the beginning of the year 1780.

Con.	Cha.	Long.	Lat.	Mag.	Con.	Cha.	Long.	Lat.	Mag.
♈	♈	11 4 48	2 9 44 n	4	♈	♈	12 1 6	0 21 48 n	2
		14 28 2	1 5 37 n	4	♈	♈	17 56 14	1 49 14 s	3
		16 48 2	0 13 15 s	4	♈	♈	22 3 46	4 24 41 n	3
♈	♈	17 46 21	1 48 7 n	4	♈	♈	24 18 10	4 2 52 n	4
		26 55 21	4 1 36 n	3	♈	♈	24 41 24	0 1 1 n	4
♈	♈	2 43 37	5 45 30 s	3	♈	♈	26 47 49	3 29 24 n	4
		5 23 14	2 35 37 s	3	♈	♈	27 24 23	0 6 53 n	4
		6 42 57	5 29 2 s	1	♈	♈	29 30 5	1 57 17 s	3
		19 30 14	5 21 59 n	2	♈	♈	29 52 12	5 26 15 s	3
		21 42 52	2 13 29 s	3	♈	♈	0 7 10	1 2 18 n	2
♈	♈	0 22 14	0 55 4 s	4	♈	♈	1 34 27	1 39 52 n	4
		2 13 39	0 50 34 s	3	♈	♈	4 43 50	4 0 23 s	4
		5 1 57	6 46 12 s	2	♈	♈	6 41 35	4 32 17 s	1
		6 52 7	2 2 28 n	3	♈	♈	8 23 15	6 5 21 s	4
		15 27 6	0 12 19 s	3	♈	♈	28 11 40	6 56 48 s	3
		20 11 11	6 40 4 n	1	♈	♈	0 8 35	2 22 24 n	4
♈	♈	4 23 28	3 10 22 n	4	♈	♈	3 15 8	2 5 31 s	4
		5 38 46	0 4 13 n	4	♈	♈	7 6 25	3 55 22 s	3
♈	♈	18 35 0	3 1 57 s	4	♈	♈	9 18 54	3 24 55 s	3
		21 11 15	3 46 1 s	4	♈	♈	11 46 9	5 2 33 s	3
		24 50 0	4 51 9 n	4	♈	♈	11 55 13	0 53 36 n	3
		26 46 26	0 27 27 n	1	♈	♈	13 10 58	1 28 7 n	4
♈	♈	3 19 2	0 8 29 n	4	♈	♈	0 58 32	4 36 46 n	3
		18 26 24	0 31 21 s	4	♈	♈	17 7 37	4 57 31 s	4
		21 58 5	3 2 51 s	4	♈	♈	18 42 30	2 32 6 s	4
♈	♈	24 2 24	0 41 36 n	3	♈	♈	20 27 42	2 33 40 s	3
		0 17 47	5 4 42 n	3	♈	♈	25 38 54	2 3 47 s	4
		1 45 55	1 22 24 n	3	♈	♈	0 11 19	2 43 22 n	4
		7 6 18	2 48 57 n	3	♈	♈	8 30 20	0 22 57 s	4
♈	♈	20 46 27	2 2 11 s	1	♈	♈	14 4 16	1 2 8 s	4

This table shewing the mean longitudes of 60 stars to the beginning of the year 1780, their mean longitudes for any other time may be found if $50\frac{1}{3}$ seconds be added for each succeeding, and subtracted for each preceding year, and proportionably for a part of a year. Thus, to find the longitude of the first star ♈♈, or ♈ piscium, for Feb. 15, 1782, or 2 years and one eighth after the tabular time; here $2\frac{1}{8}$ times $50\frac{1}{3}$ sec. make $1' 47''$, which being added to the tabular longitude, gives ♈ 11° 6' 35" for the longitude required at the given time.—The latitudes vary not.

The Latitudes and Longitudes of Ninety Places.

	Lat.		Long.			Lat.		Long.	
	°	'	°	'		°	'	°	'
Alexandria, Egypt	31	11 n	30	17 e	Isfahan	32	25 n	52	55 e
Amsterdam, Hol.	52	23 n	4	52 e	Land's end	50	6 n	5	50 w
Archangel, Rus.	64	34 n	38	30 e	Leghorn	43	33 n	10	25 e
Athens	37	40 n	23	52 e	Leostoff	52	38 n	1	54 e
Babelmandel	12	50 n	43	50 e	Leverpool	53	22 n	3	10 w
Batavia	6	12 s	106	45 e	Lima	12	1 s	76	50 w
Bengal	22	0 n	92	45 e	Lisbon	38	42 n	9	4 w
Berlin	52	33 n	13	26 e	Lizard	49	57 n	5	21 w
Bombay Isle	19	42 n	73	3 e	London	51	31 n	0	0
Boston, Amer.	42	25 n	70	37 w	Madras	13	8 n	80	7 e
Brestau	51	3 n	17	13 e	Madrid	40	25 n	3	45 w
Brest	48	23 n	4	30 w	Manila	14	30 n	120	25 e
Bristol	51	28 n	2	30 w	Marseilles	43	18 n	5	21 e
Buenos Ayres	34	35 s	58	0 w	Mexico	19	54 n	100	5 w
Cadiz	36	31 n	6	7 w	Mississipi, mouth	29	0 n	89	17 w
Calais	50	58 n	1	51 e	Moscow	55	25 n	37	51 e
Cairo, Egypt	30	2 n	31	26 e	Naples	40	51 n	14	19 e
Cambridge	52	13 n	0	4 e	Newcastle	55	0 n	1	18 w
Canaria Islands	28	1 n	15	0 w	Oporto	40	53 n	8	35 w
Canton	23	8 n	113	2 e	Orkney I. northend	59	24 n	3	23 w
Cape of Goodhope	34	29 s	18	23 e	Oxford	51	45 n	1	16 w
Cape Horn	55	59 s	67	26 w	Paris	48	50 n	2	25 e
Carthegena	10	27 n	75	26 w	Pekin	39	55 n	116	22 e
Charles Town Am.	33	22 n	79	50 w	Petersburg	59	56 n	30	19 e
Constantinople	41	0 n	28	53 e	Philadelphia	39	57 n	75	18 w
Copenhagen	55	41 n	12	50 e	Plymouth	50	24 n	4	15 w
Corinth	37	30 n	23	0 e	Port Mahon	39	51 n	3	53 e
Corke	51	54 n	8	30 w	Port Royal, Jam.	17	40 n	76	37 w
Dantzic	54	22 n	18	36 e	Portsmouth	50	48 n	1	1 w
Dover	51	7 n	1	19 e	Prague	50	5 n	14	15 e
Dublin	53	12 n	6	55 w	Quebec	46	55 n	71	12 w
Edinburgh	55	58 n	3	1 w	Rome	41	54 n	12	32 e
Ferro, Isle	27	48 n	18	6 w	Scilly Isles	50	0 n	6	45 w
Finisterre, Cape	42	57 n	9	36 w	Smyrna	38	28 n	27	25 e
Genoa	44	25 n	8	41 e	Stockholm	59	22 n	18	12 e
Gibraltar	36	5 n	4	46 w	Syracuse	37	4 n	15	20 e
Glasgow	55	52 n	4	5 w	Tangier	35	55 n	5	45 w
Goa	15	31 n	73	50 e	Teneriff	28	16 n	16	32 w
Gottingen	51	32 n	9	58 e	Tunis	36	47 n	10	16 e
Greenwich	51	29 n	0	5 e	Turin	45	5 n	7	45 e
Hacluit's Head.	79	55 n	12	0 e	Venice	45	27 n	12	24 e
Halifax, America	44	46 n	63	20 w	Verd, Cape	14	47 n	17	28 w
Havanna	23	12 n	81	11 w	Vienna	48	11 n	16	28 e
Helena, I. St.	15	55 s	5	49 w	Upsal	59	52 n	17	43 e
Jerusalem	31	50 n	35	25 e	Uraniberg	55	54 n	12	52 e

